THE MANCHESTER SCHOOL OF ECONOMIC AND SOCIAL STUDIES

VOLUME 17

1949

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KRAUS REPRINT LTD.
Vaduz
1964

Printed in Germany

Lessing-Druckerei — Wiesbaden

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Economic Change in the North-West

The Economic Research Section of the University of Manchester has begun to compile statistics of the North-West Region [1] of the country, of which the first instalment is presented together with this paper. The following commentary on subjects covered by the tables and related matters, may be found useful.

The main conclusions may be summarised in the following comparisons with the pre-war situation (1939) :

(1) Population is slightly larger, but has grown less than the population of the country as a whole.

(2) There has been a very large change in the relative importance of industries. The biggest changes in insured population are an increase of 117,000 engaged in engineering and metal trades, and a decrease of 104,000 in textiles. Other notable increases are national and local government service (79,000), transport and communications, other than railways (27,000) and chemicals (19,000). Notable decreases are distributive trades (42,000), clothing trades (14,000), and paper and printing (11,000).

(3) The industrial changes have been accompanied by considerable geographical shifts of location of work within the region.

(4) Unemployment is very greatly reduced, and now averages only between 2 per cent. and 2½ per cent. for the Region, but this is very unevenly distributed, and there are still black spots.

(5) Average weekly earnings appear to be higher, partly because of a general rise, and partly because of the shift from poorer to better paid trades.

(6) Retail trade is not increasing as rapidly in the Region as it is in the country as a whole.

More details are given below.

[1]The North-West Region is defined as the Counties of Lancaster and Chester. Labour statistics also include the High Peak Parliamentary Division of Derbyshire.

I. Population

In June 1948 there were 6,227,000 persons living in the North-West Region, which was equivalent to 14·6 per cent. of the civilian population of England and Wales. The increase over 1939 was less than 1 per cent., compared with 2½ per cent. for England and Wales, and the proportion living in the North-West had thus dropped slightly from 14·9 per cent. in 1939.

The post-war increase in population throughout the Region was the result of net release from H.M. Forces and the high birth rate of, in 1946, 20 per thousand as compared with 15 in 1939, with local variations ranging from 17 in the Weaving District to 24 on Merseyside. Net migration into, and out of, the Region does not appear to have been very important during the eighteen months ending June, 1948; though there seems to have been a very slight tendency towards loss.[1]

Despite the increase in the total population, there has been a decrease in the insured population,[2] both in the country as a whole and in the North-West, and this is of course the figure which is significant for production. Compared with 1939, the decrease for the country was 3 per cent., largely because of the increase in the Armed Forces, and the decrease for the Region was 6 per cent., in 1947.

II. Industrial Classification

The changes in the Region's industrial structure have been considerable. In July, 1947, there were 301,000 workers employed in textiles, which is 104,000 less than in 1939, and 114,000 in clothing which is 14,000 less than in 1939 (the decline in the clothing trades being heaviest in hats and caps, shirt-making, boots and shoes). The distributive trades also declined by 42,000 to 257,000. There were over 11,000 less in paper and printing, and 4,000 less in coal.

[1]A rough estimate of population at beginning of period plus natural increase, plus estimated net release from the Forces compared with population at end of period shows a loss of one-third of 1 per cent. for the North-West Region as a whole.

[2]Post-war definition. The pre-war figures have been adjusted for the calculations in this para., in order to make them comparable with the post-war figures.

The chief advances were in the engineering and metal trades which with 454,000 employed in 1947 were 117,000 in excess of pre-war. Other advances were in chemicals and glass with 19,000 and 2,500 respectively. National and local Government Service increased by 54,000 and 25,000 respectively, partly on account of the extension of Government activities, partly as a result of the establishment of Central Government Departments in the Fylde District. The numbers of insured persons employed in "transport and communications" were up by 46,000. This figure is 'inflated' by the extension of the insurance scheme to railway employees previously uninsured. If railway workers are excluded the figure is about 27,000. This, to some extent at any rate, reflects an increase in the numbers of "journeys to work" owing to the industrial reshuffle coupled with the shortage of houses, as well as increased activity.

During the nine months ending April, 1948, the engineering and metal group expanded by another 7,000 to 461,000 but the textile and clothing group increased by 16,000 to 430,000. This means a redistribution towards the pre-war position. "Redistribution towards" but not "restoration of," which would mean taking 124,000 people out of the engineering and metal industries and putting 102,000 into the textile and clothing group. At the rate of increase during the nine months ending April, 1948, the textile and clothing group would be "manned up" to pre-war level within about 5½ years if this were desirable and if the rate could be maintained, which is more than doubtful.

III. Geographical Distribution

The North-West Region is notable for a high degree of local industrial specialisation, which makes it possible to classify the region into areas that reflect more or less a common industrial pattern. The geographical classification used by the Research Section was shown in detail in Appendix I of *Readjustment in Lancashire*, a study of industrial change which

was published in 1936,[1] (see also Appendix to "Statistics Relating to the North-West"). The main subdivisions are seen in the following table, which shows the insured populations in July, 1947.

	Thousands
NORTH-WEST	**2,199**
Manchester Area	584
Merseyside	522
Spinning District	436
Weaving District	190
Coal-Chemical District	228
(Development Area)	(117)
Fylde District	101
Southern Cheshire...	110
Furness Area	30

Compared with 1939 the changes have been as follows. The heaviest declines were in the Manchester area and the Weaving District, with about 14 per cent. less each. The Spinning District lost 6 per cent., and the Furness Area 3 per cent. Merseyside shows little change, while the Fylde District, the Coal-Chemical District and Southern Cheshire gained 7, 6 and 3 per cent. respectively. These changes are all accounted for by the change in the relative importance of industries.

The tendency towards loss was universal throughout the Weaving District, though particularly marked in Nelson, Darwen, Bacup and Haslingden. Quantitatively Burnley, Blackburn and Nelson accounted for half of the Weaving District's decline. In the Manchester Area the Employment Exchange Areas in the County Borough of Manchester showed an aggregate loss of some 52,000 or 14 per cent., or if Withington (which gained) is excluded 58,000 or 16 per cent. This is largely associated with the decline of the distributive trades, of paper and printing, and of the clothing and textile trades in the Northern and Eastern part of the Manchester Area. To the East of Manchester C.B. this affected Hyde and Stalybridge which declined by about 15 per cent. Gains in

[1]The South Lancashire Development Area is mainly situated in the Coal-Chemical District; the only exception is Westhoughton (Spinning District). Figures for the Development Area are shown in this article in brackets after the figures for the Coal-Chemical District as a whole.

the "engineering districts" of the Manchester Area, chiefly to the South and West of the centre of the city of Manchester were insufficient to counteract these losses. The greatest increase occurred in Stretford : 13,000 or 23 per cent. Of the smaller towns in the Manchester Area (which includes the High Peak District of Derbyshire) only Chapel-en-le-Frith and Glossop advanced, again substantially, the former by almost one-half, the latter by almost one-quarter, of the pre-war figure. In the Spinning District, Middleton, Oldham and its satellite towns in the North and to the West, and Ramsbottom lost about one-quarter of their pre-war working population, Chorley and Westhoughton about one-fifth ; all the other towns of the Spinning District showed smaller losses, except Leigh and Preston which gained somewhat. The changes on Merseyside and in the Furness Area were less substantial, but resemble the Manchester ones in so far as the central districts, Liverpool and Barrow, declined by about 5 and 7 per cent. respectively, while some of the outer districts gained. On Merseyside the gains, particularly south of the Mersey, just more than counteracted Liverpool's loss. In the Coal-Chemical District a 10 per cent. loss of the Wigan Area (coal) was more than offset by gains in Warrington and St. Helens (chemicals and glass) and surrounding towns—particularly Prescot (electrical engineering) with over 40 per cent. In the Fylde District, Blackpool and Fleetwood increased by some 5,000 each or 13 and 50 per cent. respectively (civil servants and engineering). But Lancaster, Morecambe and Carnforth together lost about 16 per cent. In Southern Cheshire, Chester increased by 23 per cent. and Crewe by 18 per cent. (chemicals and engineering), but Macclesfield declined by 11 per cent. (textiles).

These changes are not fully reflected in the figures for the total resident population, since the housing shortage substitutes an increase in the number of journeys to work for change of residence. All the same in some of the districts the change has been substantial :—

	Percentage Increase (+) or Decrease (—) of Resident Population					Actual Population in June, 1948
	September 1945	June 1946	June 1948	June 1948	June 1948	
	compared with					
	June 1939	September 1945	June 1946	September 1945	June 1939	Thousands
NORTH-WEST REGION	— 7·8	+ 6·4	+ 2·9	+ 9·6	+ ·9	**6,227**
Towns with over 20,000 inhabitants in the						
Manchester Area ...	—12·5	+ 7·3	+ 3·3	+11·1	— 2·8	1,303
Merseyside	—20·9	+17·9	+ 3·3	+12·0	— 3·8	1,261
Spinning District ...	— 8·5	+ 6·2	+ 2·4	+ 9·1	— ·1	811
Weaving District ...	—10·0	+ 6·8	+ 1·6	+ 8·4	— 2·7	322
Coal–Chemical District	— 6·5	+ 6·4	+ 2·6	+ 9·3	+ 1·3	318
(Development Area)	(— 6·6)	(+12·5)	(+ 1·6)	(+ 8·5)	(+ 1·1)	(192)
Fylde District	+ 8·3	+ 5·6	+ 1·3	+ 6·8	+16·4	234
Southern Cheshire ...	+10·5	— 6·2	+ 1·5	+ 8·9	+ 6·3	135
Furness Area	— 2·9	+ 1·2	+ 1·5	+ 3·0	0	68
Villages & Smaller Towns... ...	+ 3·2	0	+ 3·3	+ 8·2	+ 6·5	1,775

The loss of population is likely to have most effect in the Weaving District where on account of pre-war and more recent emigration only 22 per cent. of the population is under 18 years of age which is less than the percentage in any of the other sub-regions, except the Fylde District (21 per cent.) with its high percentage of pensioners. For the Region as a

whole this percentage is 26, with Merseyside and the Coal-Chemical District (including the Development Area) leading with 30 and 28 respectively.[1]

IV. Unemployment

The shift of population and employment resulted in a 4 per cent. increase in employment of insured persons from 1939 to 1947 and an 81 per cent. reduction in unemployment, both figures being the same for Great Britain and the North-West. Of the larger towns of the Region only Manchester, Oldham and Barrow-in-Furness employed fewer people in 1947 than in 1939. Unemployment in the Region as a whole fell below the 3 per cent. which Lord Beveridge suggested as a reasonable maximum, but there still are a few black spots. The position in percentages of the insured population [2] was :

	In July, 1947	April, 1948	September, 1948 *
	%	%	%
Great Britain	1·7	1·9	1·9
NORTH-WEST	**2·1**	**2·4**	**2·3**
Manchester Area	1·3	1·4	1·6
Merseyside	4·1	4·8	5·0
Spinning District	1·4	1·1	·9
Weaving District	1·1	·9	·9
Coal-Chemical District	2·4	2·1	2·3
(Development Area)	(3·2)	(2·9)	(2·9)
Fylde District	·9	3·9	2·0
Southern Cheshire	·9	1·1	1·2
Furness Area	4·9	4·1	3·8

*September figures not strictly comparable with earlier ones owing to change in definition, so that September percentages are a very rough guide only.

[1]Calculations based on Ministry of Food Returns for 1947.

[2]Insured population at July, 1947.

In order to appreciate the size of the problem in its proper perspective it is useful to subtract from the unemployment figures the number of vacancies outstanding. The result underestimates the problem and should be regarded as a minimum, since the vacancies outstanding are not all suitable for the people who happen to be unemployed. Yet it brings out the relative position of the various sub-areas in respect of labour-surplus and labour-shortage :—

	Labour Shortage (—) and Labour Surplus (+) in September 1948			
	Total	**Men**	**Women**	**Juveniles**
NORTH-WEST	**—12,369**	**+21,176**	**—16,655**	**—16,890**
Manchester Area	—10,073	+ 1,851	— 6,735	— 5,189
Merseyside	+21,102	+19,037	+ 2,611	— 546
Spinning District	—16,633	— 440	— 8,713	— 7,480
Weaving District	— 6,236	— 581	— 3,975	— 1,680
Coal-Chemical District	+ 1,608	+ 1,849	+ 692	— 933
(Development Area) ...	(+ 1,819)	(+ 1,713)	(+ 573)	(— 467)
Fylde District	— 119	+ 824	— 570	— 373
Southern Cheshire ...	— 2,592	— 1,400	— 505	— 687
Furness Area	+ 574	+ 36	+ 540	— 2

Juvenile unemployment is no problem nowadays. There is no surplus juvenile labour anywhere in the Region. The shortage is likely to continue, not only because of the low birth rate of the nineteen thirties and the raising of the school-leaving age, but to no small extent because it represents a demand for cheap labour in textiles and clothing, distribution and personal services, and to a lesser extent in engineering, which is not likely to be satisfied again as far as one can see.

The Region's adult unemployment to-day is chiefly unemployment of male labour on Merseyside. It is heaviest in

Liverpool (5·2 per cent. of the insured population[1] in September, 1948), Bootle (6·4 per cent.), Birkenhead (4·3 per cent.) and Wallasey (8·3 per cent.) which together had a labour-surplus of about 20,000. Of these 20,000 about 17,500 were men of whom more than half were unskilled and mostly attached to no particular industry ; over 4,000 registered as "general heavy labourer" and over 3,000 as "general light labourer." The cause probably is the low post-war level of activity in the port—which in spite of considerable post-war advances still was about a quarter below the 1938 level in the first six months of 1948.[2]

Temporary remedial measures include some priority for Merseyside public works and building concessions, also not very successful attempts to move some of the men to other areas. It is hoped that the trading estate Liverpool Corporation is developing on the site of the R.O.F. Kirkby and areo and light engineering works in Walton, also on the site of a war-time Government Factory, will absorb some 15,000 workers. Despite these and other development projects some fear that a certain male labour-surplus will remain, unless there is a marked increase in shipping and trade. The second largest unemployment pocket was, for a time, in the Fylde District, chiefly Blackpool. There the unemployment problem dates from the fourth quarter of 1947 and appears to have reached its peak in April, 1948, with 6·8 per cent. of the insured population. It subsequently declined to 3 per cent. in September, with a male labour surplus of almost 1,000, though there was a shortage of women. Here the cause was the cessation of production of aluminium houses for the temporary housing program, as well as the dismissal of locally hired staff of departing Government departments. More widely known is the problem of the Development Area which continues to suffer from the gradual exhaustion of the coal-field. But in this case the figures are somewhat misleading : a considerable number of people from the Development Area go to work in towns outside the Area. They count as insured in the towns

[1]Insured population at July, 1947.

[2]Cf. *Board of Trade Journal*, 1939 and 1948.

where they work. But if they become unemployed they register at home. Consequently the present unemployment position is exaggerated, but the danger to the Area of a renewed outbreak of unemployment elsewhere is not shown in the figures. The male labour surplus of the Manchester Area is at any rate in part due to the decline of some of the clothing trades, particularly of hats and caps. It has increased from 1,241 to 1,851 between April and September, 1948, and at the latter date exceeded the male labour surplus of the Development Area. The unemployment problem of the Furness Area is due to lack of opportunities for those unable to take work in heavy industry.[1]

V. Earnings

One would like to put side by side with information on changes in industrial distribution an estimate of average earnings. Figures for average earnings are available nationally. These national figures can serve as a guide to what happened in the Region only on the assumption that the relative position of industries in the Region is the same as in the country. If this assumption can be made the average weekly earnings in each industry[2] weighted by the numbers employed in each industry in the North-West in April, 1948, gives a figure of 114s. 3d. If the distribution of labour had been the same as in July, 1939, the figure would be 107s. 5d.

VI. Retail Trade

No information is available to make possible a comparison of shop-spending now and pre-war. The post-war movement is indicated by the retail trade indices published by the Board of Trade.[3] The regional index advanced by 16 per cent. from 1945 to 1946 and 10 per cent. from 1946 to 1947. If one allows for the rise in prices of about 3 per cent. in the former

[1]For a detailed study of the Furness Area see the Lancashire Industrial Development Association's Report: "The Furness Area."

[2]As shown in *Ministry of Labour Gazette*, October, 1948. Estimate excludes agriculture, railways, distributive trades, professional services and Government industrial establishments.

[3]In *Board of Trade Journal*.

year and 7 per cent. in the latter,[1] the regional advance is by 13 per cent. from 1945 to 1946 and by 3 per cent. from 1946 to 1947. The increase over the country as a whole was somewhat greater ; it was 17 per cent. and 12 per cent. in current prices and 14 per cent. and 5 per cent. in constant prices. The difference between the regional increase and the national increase was 1 per cent. in 1946 and 2 per cent. in 1947, and the cumulative effect of this difference since 1942 is that by 1947 national trade has increased 8 per cent. more than has the trade of the region. The difference is not very marked in food and perishables (which absorb about 73 per cent. of the national shop-takings [2]) but is more noticeable in non-food merchandise.

[1]Estimate based on Table 21 of Cmd. 7371 (National Income and Expenditure of the United Kingdom, 1947).

[2]Cf. Monthly Digest of Statistics, No. 27, March, 1948, Table 140, footnote 1.

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The Restriction of Foreign Trade

I

The following notes are offered as an attempt to obtain fuller comprehension between those who believe that restriction in the freedom of international trade is necessary under present conditions and those who believe in the case for complete freedom.

The total world output of all commodities can always be increased by an increased volume of trade unless the relative prices of all goods, which can be the subject of international trade, are the same in every country.[1] (This abstracts from transport costs, but the adjustment is easily made to take them into account). The proposition remains true whatever the level of employment in the different countries of the world may be, *providing* an extension of trade does not reduce the level of employment. If country alpha maintains its level of employment unchanged, the abolition of its controls on trade must make possible a higher degree of productive efficiency for the world as a whole.[2] There are, however, two difficulties which are at the basis of the present controversy.

First, alpha may not be able to keep her employment enchanged if she removes controls. This is likely to be the case under a gold standard. Controls, in the form of tariffs, exchange controls, quotas or other means are often imposed precisely to avoid a drain of international liquid assets : if they are removed there will be a loss of assets which can only be stopped by lowering incomes, and, initially at least, this means unemployment. Then there may be an increase in the efficiency of utilisation of the resources which are being used

[1]See A. P. Lerner, "The Diagrammatical Representation of Cost Conditions in International Trade," *Economica*, August, 1932 ; G. Haberler, *International Trade*, Chapter XII.

[2]This would be untrue if the controls are of such a nature that they leave relative prices in alpha the same as elsewhere. Mr. Keynes' (perversely ill-named) 'revenue tariff' was intended to approximate to this result. Another possible exception is that controls might make competition less inperfect ; since restriction on trade usually has the opposite effect this possibility is not further considered below.

at all, but less resources are employed. A net loss is at least as likely as a gain.

Second, the removal of controls by alpha must increase world efficiency at any given level of world employment, but it need not benefit alpha. Indeed, unless alpha can have no effect at all on world prices of the goods she buys or sells, some control will always be to her advantage.[1] A country of any importance in international trade can always exert some monopolistic power.[2] It is true that others will follow the same policy, but they would do so whether or not alpha acts as a monopolist. It should be noted that this monopoly power exists as long as either the foreign demand for alpha's products or the foreign supply of alpha's purchases is less than perfectly elastic. The extent, but not the existence, of the gain depends on the value of these elasticities. Thus the argument can proceed without considering whether the foreign elasticity of demand for alpha's goods is less than unity.

The writers, who are arguing in favour of quantitative and discriminating controls on our foreign trade are thinking both of employment problems and of the use of monopoly power, but it is not always clear which is the main concern at any time. There are, of course, other arguments for the control of trade ; that which relies on the social costs of instability is the most relevant here. Tariffs or other controls may well be justified to assist the development of backward countries, but this also is not the point of issue.

The employment argument can be shown to be weak, as soon as we are reconciled to variations in exchange rates. As long as the fixity of exchange rates is taken as an article of

[1]The literature on this point is considerable ; see especially : C. F. Bickerdike : "The Theory of Incipient Taxes," *Economic Journal*, December, 1906 ; C. F. Bickerdike, "Review of Pigou : *Protective and Preferential Import Duties*," *Economic Journal*, March, 1907 ; F. Y. Edgeworth, "Bickerdike's Theory of Incipient Taxes," *Papers, Vol. II* ; G. Haberler, *op. cit.*, pp. 290-5 ; T. de Scitovszky, "A Reconsideration of the Theory of Tariffs," *Review of Economic Studies*, Vol. IX, No. 2 ; J. V. Robinson, "The Pure Theory of International Trade," *Review of Economic Studies*, Vol. XIV, No. 2, p. 107 ; R. F. Kahn, "Tariffs and the Terms of Trade," *Review of Economic Studies*, Vol. XV, No. 1.

[2]Here and elsewhere monopoly power is to include monopsony.

faith, foreign trade controls are the only alternative to unemployment if a deficit appears in the balance of payments. But as soon as we are willing to contemplate devaluation it proves to be the preferable alternative as far as the productive efficiency of the world is concerned. If a depression starts in one country (let us call it America) so that all other countries have a deficit balance, they can either all contract their trade with every other country (by deflation or non-discriminatory trade controls) or they can curtail their trade with America only. The latter is clearly to be preferred.[1] But it can be achieved in two ways : by all countries devaluing with respect to the dollar or by trade controls which discriminate against America. The reason for preferring devaluation is simply that it ensures that the equality of relative prices of international trade goods is maintained as between different countries. If we impose tariffs on American goods, then goods largely imported from America become more expensive relative to other goods in England—but not in America, unless export subsidies are paid by the rest of the world on goods exported to America. Export subsidies are, however, not permissible according to the normal code of behaviour and will attract countervailing duties.[2] Thus either there is a deviation from equality of relative prices, or else the effect of export subsidies is achieved by devious means which involve other distortions.[3]

[1]See R. Frisch, "Forecasting a Multiple Balance of Payments," *American Economic Review*, September, 1947 and T. Balogh passim.

[2]A combination of taxes and export subsidies could achieve the same result, except for the terms of old contracts. Apart from the widely felt objection to this method (which would be irrational if we could rely on countries to deal with all imports alike and subsidise all exports alike) it involves a complicated mechanism for enforcement.

[3]A notable pre-war example was the special railway rates for export goods in Poland. To-day these measures take the form of denying raw materials for producing goods for sale on the (profitable) home market to firms which fail to sell a fixed quota abroad—and even the threat of closing of these firms. It is possible for such measures to be carried to just the right point, but I do not think anyone would wish to argue that it was likely.

The case is more complicated but essentially unchanged if a quota is imposed on American goods and price control prevents the price of these goods from rising. Then indeed relative *prices* remain equal in England and America, but the marginal rates of substitution are not, and it is the equality of the marginal rates of substitution which is the relevant criterion of maximum productive efficiency.

More important perhaps than the distortion of trade with America, is the fact that trade discrimination grows. We soon find that, while dollars are very short, Swedish krona and Portuguese escudos are rather short while French francs are a drug on the market. The result is a whole complex of varying discriminations within which it is impossible to maintain any set of principles. Presumably we are to-day attempting to equalise marginal cost and marginal revenue in our trade negotiations with each separate country. Can anyone have the slightest idea whether a switch of a thousand tons of coal from Denmark to the Argentine would be worth while in terms of the change it would produce in the whole trade agreement with each country, or whether either would be preferable to the position if we used the coal at home, either to produce goods for ourselves or for sale in yet a third country? In practice, discrimination involves rough bargains which soon obscure all sight of opportunity costs—and therefore of the criteria of efficiency. The maintenance of employment is as well ensured by devaluation as by discriminatory trade controls, while efficiency is much better served by devaluation. The world is not so rich as to be able to despise efficiency.

There are certain objections to devaluation which it is convenient to deal with at this point. It should be remembered that we are here concerned with the case for controls to prevent unemployment; the case for exploiting monopoly power will be treated separately. This distinction is essential to clarity; the case for controls sounds plausible only because the distinction is not made. A reasonably high level of employment can be maintained without controls, by a sufficient degree of flexibility of exchange rates but possibly only at the cost of an inequitable distribution of real income between countries. But let us see what happens to the distribution of income if we follow a policy which will ensure a high level of employment and efficiency in the use of resources—and then if necessary take the steps to correct it. This, rather than the demand that the economic policy of each country should be designed simultaneously to maximise employment and to maximise its real income, would enable us to treat the questions separately.

(*a*) RETALIATION. It may be argued that America would not allow the rest of the world to depreciate in terms of the dollar. If America insisted on depreciating the dollar in terms of gold as fast as sterling was depreciated in terms of gold, then the dollar price of gold would rise continuously. The effect would be a continuous rise in the dollar value of gold assets held outside America, until these became excessive and countries were willing to finance a deficit by realising them. Such a development appears very unlikely ; at the very least America devaluations could be expected to lag behind those of the rest of the world. However, even in the worst possible event a solution emerges.[1]

(*b*) INELASTIC DEMAND FOR EXPORTS. The normal argument against devaluation is that our imports could not be curtailed and our dollar earnings would fall. This argument would be strengthened if every country (save perhaps Switzerland) were to devalue simultaneously against the dollar. It is true that by devaluation to the equilibrium rate of exchange [2] we shall renounce the chance of monopoly gain—

[1]The solution can be compared to Professor Pigou's treatment of the effect of a fall in money wages, "The Classical Stationary State," *Economic Journal*, December, 1943.

[2]By an equilibrium rate of exchange, I mean that rate which will leave a surplus or deficit on current account equal to the capital movement which the country is prepared to tolerate (and which will occur if it is tolerated), given that domestic employment is maintained at the highest practical level. This I take to be Professor Haberler's meaning ("Currency Depreciation and the International Monetary Fund, *Review of Economic Statistics*," November, 1944). Mr. Balogh objects to this view (The Economics of International Readjustment, p. 83 note) really on the ground that it fixes for ever the distribution of international liquid assets as they happen to be when the Fund starts. This is not a very serious objection, since these assets are required to maintain fixity of exchange rates despite temporary changes of the equilibrium rates—during such periods, assets will be transferred from one country to another and countries with excessive reserves will naturally adjust their rates less quickly than other countries when their assets fall.

Professor Haberler is surely right in arguing that a country shall not devalue when it has a favourable balance of trade on the plea that if it expands home incomes this would lead to a deficit. Let it rather expand first and if the deficit does occur (and we can never guarantee that it will) then it can devalue. In this way the effect on other countries will be expansionary and we shall avoid unnecessary devaluations. This requires qualification in the case of a country which has already almost exhausted its liquid assets. Such a country cannot risk even a temporary deficit. I think Professor Haberler would be willing to accept this qualification.

but this does not depend on the elasticity of demand for exports ; the question as to whether we should use our opportunity is an entirely different one, which is better kept separate from the more respectable employment argument.

(*c*) Domestic Inflation. If sterling is devalued against the dollar, the sterling prices of dollar imports rise. Thus the cost of living is increased and there is a demand for higher wages, which necessitates further devaluation—and the same sequence all over again. In its extreme version, the argument would be that there would be no halt short of complete demonetisation of sterling.[1] This reduces to the view that if we do not exploit monopoly power in international trade, we shall become so poor, that the Trade Unions will refuse to tolerate the resulting level of real wages, until they are forced to by the collapse of the currency. The validity of this argument depends on an evaluation of the gain we do derive from exploiting our monopoly power, and on the reaction of wage-earners to a fall in income. I do not see that anyone can be dogmatic as to the magnitude of these effects. However, I should feel that the risk of an intensified wage spiral was considerable, at any rate in the absence of Marshall aid. Once again, this is part of the case for using monopoly power.

(*d*) Exchange Instability. If exchange rates are constantly altering it is unlikely that there will be an ideal international division of labour. While complete stability of the exchanges is unnecessary, some stability is highly desirable. Here the International Monetary Fund may be helpful by increasing international liquid assets. But the Fund will fail very early if it continues to be used as a supply of dollars for countries which can see no prospect of ever attaining an equilibrium. A country's assets and its drawings from the Fund can appropriately be used to preserve short term stability of the exchanges. Beyond that stability is unattainable ; if a deficit continues so that the assets are running down faster

[1]The case is not very different if the sterling price of imports to consumers is kept constant by subsidies. Then either the surplus is reduced to this extent, so that inflation is faster or taxes are increased and the supply of goods curtailed owing to the effect on incentive, so that again internal inflation is accelerated.

than a country will permit, there must be some drastic action taken. Whether it be internal deflation, devaluation or the imposition of controls on imports makes little difference to the extent of the dislocation of trade. Exchange instability is a bad thing, but it is no more hampering (indeed, because of its simplicity, less hampering) than instability of trade controls.

II

The argument so far is that there is no reason for preferring trade controls to devaluation from the point of view of employment, while from the point of view of the productive efficiency of the world as a whole, there is every reason for preferring devaluation.

This is, in general, the argument for *laisser-faire* as against planning. As we know, *laisser-faire* is not necessarily ideal. The distribution of incomes which it produces is accidental in the sense of being whatever happens to come out of the machine and is unrelated to any criterion of how we should want income distributed. The only virtue of *laisser-faire* is that it does ensure maximum productive efficiency. This is an insufficient justification ; men do not consider that their duty on earth consists in running the economic machine with perfect efficiency. The ideal solution is for the rich or the wicked to make lump sum payments to the poor or the virtuous. Then we can have both perfect productive efficiency and the desired distribution of incomes. It is, however, rarely practicable to achieve this. Most of us would accept some loss of productive efficiency as a reasonable cost for improving the distribution of incomes. If the only way to avoid farmers being very poor is to allow them to charge monopoly prices for their goods, we should probably approve it (though most of us would feel that there must be some better way of achieving the same end). But, and this is the point, we should not use this argument as a general argument in favour of charging monopoly prices. The rich and the wicked are rather more likely to benefit from opportunities to establish a monopoly than the poor and the virtuous. There may be a case for some monopolies, but not for monopolies as such.

The problem is the same in the international sphere. The mistake of the supporters of trade controls is that they appear

to be confusing what is really special pleading on behalf of this country with general support for a restrictive policy. The argument cannot be that the restriction of foreign trade is desirable for its own sake, or that the world would be a better place of every country strives to maximise its gain from international trade by restrictive practices. If every country is a monopolist, the world as a whole must be worse off than if no country restricted trade ; it is likely that each individual country will be worse off : this is not certain, but the presumption against any particular country gaining from universal monopoly practices is very strong. The case is not this, it is that certain poorer countries should be allowed to raise their standard of living relative to the richer countries even at the cost of a reduction of productive efficiency for the world as a whole. It is the case, for not general restriction, but for selective restriction. If every country is to restrict its trade, then even the poorer countries would gain from the *general* abolition of restriction.

Here lies the difficulty ; if we alone could restrict, then we could gain from doing so. However, in fact other countries which have not our claim to special treatment also restrict. We gain from our bulk purchase agreements—until we deal with Argentina, who has (probably) been more successful than we in making a bargain.

The solution is that a satisfactory regulation of world trade, in the period which must elapse before it is possible to rely on every country maintaining a stable level of domestic employment, requires :

(*a*) flexibility of exchange rates, coupled with the provision of extra international reserves to avoid unduly frequent adjustments of rates and some authority to prevent export surplus countries from indulging in competitive devaluations, and (*b*) the maximum liberty of trade and elimination of tariffs, exchange controls, import quotas and all other devices for curtailing the operation of a price system. This must be coupled with some international authority which can give permission for the introduction of specific controls by particular countries. The authority must realise that every

additional exemption it gives weakens the value of all those which it has already given ; that exemptions are self-defeating unless they remain limited exceptions to a general rule. Requirement (*a*) makes a full employment policy possible, while (b) enables the *laisser-faire* distribution of income to be modified to some extent in cases where the world authority feels it appropriate.

If each country is to decide for itself whether it deserves a higher standard of living than the market will provide, then each will decide in its own favour—and all will get less. Thus some international body must decide, and to decide it must develop some ethical principles as a basis. We must recognise that there will be a large number of requests for permission to restrict trade—and that most of them must be refused. Two categories of claims should always be refused. Limitation of trade is never necessary or desirable to deal with unemployment ; devaluation is the proper remedy. Only in the cases where the consequence of devaluation to the level necessary to ensure equilibrium in the balance of payments would be an excessive reduction in the standard of living should permission to restrict trade be given. The second case which should be excluded is control over international trade to affect the distribution of incomes within a country. The case for allowing the use of monopoly power by countries is that there exists no practicable alternative method of affecting the distribution of incomes between countries. Within countries such means do exist and should be used. If it is felt that the income of the producers of some commodity are too low and that it is necessary to provide some assistance, a subsidy can be given out of the proceeds of general taxation rather than a tariff which further distorts trade.[1]

After eliminating these claims there would remain three major (and doubtless many other minor) justified reasons for imposing restrictions :

(*i*) undeveloped countries. Countries which have no manufacturing industry may find it difficult to start industrial development, though they may be suited to it. The case is

[1]Even here an exception might have to be made in favour of countries unable to administer a direct taxation system or to levy excise duties.

stronger than the 'infact industry' argument because the external economies of an enterprise may well be very considerable in a country with a very primitive industrial equipment and because these external economies are likely to benefit all other enterprises whether they are producing goods of the same kind or not. The case is thus the extension to the international field of the general argument for subsidising firms which generate more than the average external economies. Subsidising out of general funds would, once again, be preferable to the limitation of trade—but the problem arises in precisely those countries least able to collect tax revenues for the purpose.[1]

[1]This argument—extended to cover every country save (at present) the United States—is one of Mr. Balogh's main arguments for discriminatory systems. It is one of special importance because it would justify discrimination even in a world where there was no risk of unemployment and no instability of foreign trade. (See T. Balogh : "The United States and the World Economy," *Bulletin of the Oxford Institute of Statistics*, Vol. 8, No. 10, October, 1946, p. 323). The argument runs as follows : industry (as contrasted with raw material production) in any region is subject to increasing returns ; this if one region gets ahead of all other regions it can stay ahead in the absence of restrictions on trade. "But any division of labour between countries founded on comparative social differences (including capital intensity) which are alterable by policy will tend to stabilize inequality and has therefore to be rejected as a criterion of policy." (*loc. cit.*)

This implies that (subject to modification for 'really unalterable comparative differences between countries') industry should be evenly spread throughout the world—thus achieving equality. It would also achieve *minimum* productivity : if there are considerable economies in the regional concentration of industry, then maximum productivity will imply maximum concentration. In fact the increase in returns soon becomes negligible for a moderately industrialised country, though the difficulty of starting may be overwhelming for an undeveloped country. That discrimination is not essential before industry can develop is shown by the growth of industry in the South and Far West of the United States. It must be clear that this argument cannot be used to justify discrimination by Britain : we are much more industrialised than the world as a whole, so that if every country follows the same policy, we must reduce not increase our industrial output ; finally, if we compare industry and agriculture our comparative advantage lies in industry, if we exclude a few lines in which the U.S. is especially efficient.

The treatment of manufacturing industry as a whole as an increasing returns industry is valid and important, but it is the reason and justification for the regional concentrations of manufacturing. The regions of concentration at any time may be partly accidental but this is no reason for wishing to destroy concentration. Only when the absence of industry causes an abnormally low level of income in some area is the use of special measures justified—and the special measures must be restricted to a few countries, for otherwise they become self-defeating.

(*ii*) poor countries. Countries where the standard of living is considerably below the average have a claim to be allowed to use controls on international trade to improve their position—if they can show that they really will benefit, sufficiently to justify the loss to the world of the reduced productive efficiency. It is rather doubtful whether they will often be able to do so ; in general the poorer countries are those which are least able to operate delicate controls efficiently. Further, since the case is one for assitance for a considerable number of years, we must estimate the gain on the basis of the long period foreign supply and demand curves. They will certainly be more elastic than the corresponding short period curves. There would seem to be no means of knowing how elastic they are. However, if countries like China and India request permission for controls to raise their standard of living it would hardly be possible for richer countries to refuse, on the ground that the controls might fail in their objects. They could only do so if they were willing to make a direct contribution which would be as valuable as the possible gain from the imposition of controls.[1]

(*iii*) impoverished countries. In a world of considerable change, there are liable to be countries which, if they do not impose controls, suffer a sudden and drastic fall in their standard of life—even though the standard of life still remains above the average. If this happens to a group within a country we feel that it is a matter for consideration and possibly some help. We should not normally think of it as justifying the taxation of people with smaller incomes in order to maintain this impoverished group at its accustomed standard of living. Similarly, we should hardly expect an international authority to consider such cases as appropriate ones for allowing controls to be imposed at the cost of all other countries

[1]On economic grounds the payment of a subsidy would always be preferable to the grant of permission to restrict trade. However such subsidies are liable to cause more political trouble than the economic gain would justify. They produce the suspicion that the wealthier countries wish to buy control over the poorer ; as the purpose would be to avoid the necessity for restrictions on trade, and the countries paying the subsidy would want to be sure that this purpose was achieved, there would always be *some* justification for this fear.

including those with an even lower standard of living. However, the case is stronger for help in such cases between countries than it is within a country. The sudden decline in the standard of living of a people may be intolerable and lead to wild inflation or revolution. Runaway inflations and revolutions are disturbing to world trade and to world peace. They are worth some price to avoid. The case is only one for making the decline less abrupt than it would be in a completely *laisser-faire* economy or of smoothing out fluctuations if the decline is only temporary. There could not be a case for permanent retention of controls for the benefit of a country which, however much she might have suffered, was still better off than many other countries. Precisely because the controls would be temporary there would be more scope for them to improve the standard of living of the impoverished country (the relevant elasticities refer to the short period).

The British case is the third. We are impoverished by war—we hope temporarily—but even if we were to abandon all controls on foreign trade our standard of living would be above the average for the world as a whole. Our case to an international authority would be that we should be helped to make the transition gradually or, alternatively, that, since the decline in our standard of living will be of short duration, we should be spared the dislocation involved in a large further fall in our standard of living over the next few years. It should be clear that an international authority might approve or it might reject such a claim—the case is not conclusive either way and would have to be decided in a more or less arbitrary fashion. It might seem preferable to refuse to take part in any international agreement for reducing the restrictions on international trade, and so be free from the risk that we might be refused the right to maintain our own controls. However the alternatives before us are the abolition of controls by everybody or the retention of controls by everybody ; the former is almost certainly to our advantage. We can only attain the best possible result, the abolition of controls by everyone except ourselves, if we do commit ourselves to international action and the authority set up gives us permission.

Even if it does not, international agreement to remove controls is still to our advantage.

The case is a familiar one ; deviations from the results achieved by the price mechanism are often justified, but not all such deviations are desirable. There must be some authority to sort out such deviations and authorise the desirable ones. We require a price mechanism (either Dr. Lange's socialist price mechanism or that of competition) to indicate where the major deviations from productive efficiency are to be found. With a system of controls as complex as those we are operating to-day we just do not know what the opportunity costs and marginal rates of consumer substitution are. In such cases a grave loss of productive efficiency is inevitable. Yet this loss is quite unnecessary : we could all be better off by abolishing the restrictions on trade and could then mitigate any special hardships by special exemption.

III

This section deals with a miscellaneous collection of arguments in favour of the reduction of foreign trade below the level which would result from complete *laisser-faire.*

The first is based on the instability of foreign trade. If we try to maintain stable employment at home by planning it is inconvenient to find that an important sector of the economy lies outside the scope of any national plan ; all the more so when that sector is notoriously unstable. It might seem wise to curtail this unstable section. The argument is not (or at least should not be) that controls over foreign trade will make our imports and exports more stable, but merely that we wish to curtail the unstable portion of the economy below the level which competition will produce. Further, if like-minded countries can get together and make long-term contracts, they can then reduce the fluctuations in foreign trade. The transfer from imports to home produced goods and from goods produced in unregulated economies to goods produced in countries willing to make long-term agreements may involve some loss in terms of the ideal international

division of labour, but this will be compensated by a fuller utilisation of domestic resources.

The answer is complete but not quite satisfying. Resources, in a price economy, will get the same return in fluctuating trades as they do elsewhere. Thus if equipment in shipbuilding is used only fifty per cent. of the time its profits during the periods when it is used will be twice as much as elsewhere. The yield of resources will take into account the fluctuating nature of the income and no further diversion of resources into more stable trades is called for. What we require is that all resources should be used in the most productive way : not that they should be used every day of every year. As far as capital resources are concerned, this answer seems satisfactory. It is less so with regard to labour. Even if the shipbuilding worker did earn twice as much as in other similar trades there would still be a social disadvantage in idleness one year in two ; and in fact his earnings are much lower than this. Part of the difficulty arises from the fact that our recent experience concerns a period of general unemployment, when all the arguments about the distribution of labour between industries break down ; when there is unemployment everywhere any work is better than none and the risks of instability of employment are forgotten. Again the unstable industries are subsidised by the stable industries through the unemployment insurance system. There is, therefore, a case for curtailing the unstable industries and in particular for ensuring that these industries bear the costs of their instability (except in so far as a domestic full employment policy can stabilise them). The required result can be achieved not by regulation of trade but by ensuring that each industry supports its own unemployed—or better, bears the responsibility for providing alternative employment in periods when it is unable to use them for its primary purpose. This reveals one of the many cases where interference with a free economy is required, but the procedure in such cases is to discover the minimum and not the maximum change in conditions necessary to remedy the difficulty.

The possible stabilisation of trade through long-term contracts is too wide a field for treatment here. The difficulties are so great that one may legitimately feel sceptical of its success. In any case, whatever we do, trade with an unstable economy ('America') cannot be made stable, while trade with another stable economy ('Australia') will be substantially stable, if full employment is maintained both in Britain and Australia by simultaneous depreciation in terms of the dollar but without any specific trade controls. This does not imply that perfect stability is attainable : it is not, even with complete autarchy. Uncertainty is the cost of progress ; we can properly limit its consequences, as every firm does, by carrying stocks and above all by attempting to stabilise the level of employment in every country. Such a policy should reduce instability to acceptable limits, though doubtless there will remain cases which justify special assistance of the kind discussed in the previous section. To use the fear of instability as a reason for a serious curtailment of international trade could only be justified in a country which was very rich and very unenterprising.

The second consideration concerns capital movements. International movements of capital to take advantage of a higher rate of interest abroad are part of the mechanism for the most productive use of the world's resources. Restriction of capital movement implies then, like restriction of the movement of goods, a reduction in the world level of productive efficiency, but it may be to the advantage of the country imposing the restriction. The principles are thus the same as in the case of restrictions of trade. However there are many additional complications. Movements of capital may take place to avoid risk—say of civil disturbance or of atom bombs even at the cost of lower yields, if the disturbance does not occur. Here, too, there is a gain, from the point of view of the world economy, in allowing capital movements, since if there are localised risks it is better that capital should be concentrated in those areas least likely to attract them. Capital movements may also occur to avoid high taxation or perhaps a capital levy in one country ; the fear of depreciation of a

currency may cause people holding liquid assets to move them until the devaluation has occurred. In these cases the loss to the country from which capital is flowing is not a gain to the world as a whole. It would seem most undesirable that every country should be forced to keep its tax rates in step with all the others for fear of losing capital if it levies higher taxes than other countries. In the case of short-term capital liable to be moved from one country or another, the best solution would be for each country to have sufficient funds to be able to offset these movements without controls over them, as the Exchange Equalisation Fund did before the war. Countries are liable, however, to be short of international liquid assets and to be unable to finance a temporary outflow of funds; if they cannot impose controls, the currency must be depreciated, and this may well intensify the outflow of funds. In the extreme case there might be a complete collapse of the currency, brought about by a casual movement of funds. A country with inadequate foreign assets can legitimately ask to be relieved of this risk.

There are thus three cases where control over capital movement can be justified:

(*a*) as part of the general case for exceptional benefits for poor countries,

(*b*) where capital movements are taking place to escape private risks which are not social risks,

(*c*) where short-term capital movements threaten to require a devaluation which would otherwise be unnecessary.

It is clear that these cases could cover nearly any case of a capital outflow, so that we might as well accept as a general principle that control of capital movement is legitimate. This becomes a very serious qualification to the principle that controls over trade—that is over current transactions—should be free from all restrictions unless special permission for an exception has been given by an international authority. The qualification is serious because control over capital movements can only be enforced by a check on all transactions whether ***prima facie*** of a capital nature or not. The check must be accompanied by the power to forbid certain transactions on

the ground that they constitute an outflow of capital. This in turn means that the power exists to forbid *any* transaction : the task of the international authority in ensuring freedom of trade is made exceedingly difficult.[1] This difficulty must be faced, however ; it will be a very long time before we can expect to attain a world in which complete freedom of capital movements will be practicable.

The third reason for restricting trade is that we must curtail imports of luxury goods, at any rate if they come from 'hard currency' countries. The argument is different according as to whether these luxuries are the consumption of the rich (like imported furcoats) or of the whole community (cigarettes). If the luxuries are the luxuries of the rich, the appropriate treatment is to tax the rich so that they can no longer afford them. Then, if this policy is rejected on the ground that the effect on output will be too adverse, this is a recognition that the rich must be allowed luxuries, and if they are allowed luxuries there is no reason for forbidding them imported luxuries providing they will pay their cost. The advantage of a price system is that it ensures that prices do represent opportunity costs. Thus, in a price system, the burden is just the same whether the rich consume domestic or imported luxuries to equal value, and the incentive to increase output to obtain these luxuries will be greater if the consumer is allowed free choice between them than if he is compelled to restrict himself to domestic products.[2]

With reference to the luxuries of the masses, the case is different. If the English price ratio between tobacco and bread is equal to opportunity cost (and therefore equal to the American price ratio)[3] and consumers prefer tobacco, it would

[1]Compare G. Haberler, *International Trade*, p. 86 *et seq.*

[2]This is Professor Robbins' point in *The Economic Problem in Peace and War*, pp. 34-7. It is a fallacy that a redistribution of incomes which cannot be attained by direct taxation—owing to the adverse effect on incentive—can be reached through raising prices. See my "The Case for Indirect Taxation," *Economic Journal*, December, 1948.

[3]This requires modification if we are exploiting our monopoly power. For then our purchases may have more effect on the American price of tobacco than on the American price of wheat. In this case the wheat price of tobacco should be higher in England than America—the marginal cost of the two being the same.

seem reasonable for them to have it. There may, however, be grounds for rejecting the presumption in favour of consumer choice. If so, an excise duty may well be appropriate. The argument does not depend at all on the fact that tobacco is imported : it is just as valid for beer. It is not a reason for encouraging consumption of colonial tobacco rather than American but simply for saying that consumers are buying too much tobacco altogether. As a reason for discriminating between different sources of supply, this is invalid.[1]

IV

A further point must be considered which takes us nearer to the economic realities and further from the treatises on International Trade. This is the problem of the economic power of the large trading nation.[2]

[1]It only needs to be mentioned that the present distinction between hard and soft currencies is only possible because exports have not been sent to the countries to which they should have gone on a basis of rational economic calculation. The failure to direct exports to the most advantageous markets may, of course, be deliberate and based on more important grounds than economic rationality. We cannot have close political ties with France and refuse to sell her anything beyond what is necessary to buy the essential goods she has to offer. Similar considerations may apply to the Colonies and Dominions. We must decide whether exports to these countries are an economic price we are paying for a political gain or whether, as is often maintained, they are necessary as a condition of obtaining urgently needed goods sometime in the future. If the latter is the true reason, then the fact that we have a favourable balance now with these colonies is no reason for buying goods from them that we simultaneously decide we cannot afford to buy in other markets. We should rather reserve our balance to use when the essential goods do become available. The only 'soft currency' countries should be those to whom we are sending political exports or countries which are willing to lend us money indefinitely.

[2]Mr. Balogh's writings abound in rather unco-ordinated references to this problem. Thus : "We start with an initial and extreme disequilibrium. This must first be eliminated, and the escape clauses do not permit the elimination of its cause, *i.e.* of the disproportionate importance of the United States in an impoverished world . . . The restoration of the basic equilibrium of the world economy in an expansionist fashion requires a permanent re-channelling of world trade by discriminating methods and complex preferential arrangements so as to regain balance between Europe and the United States." *Bulletin of the Oxford Institute of Statistics* : Vol. 10, Nos. 7 and 8, July-August, 1948. Some useful suggestions will be found in Dr. Perroux's more systematic treatment (Esquisse d'une théorie de l'économie dominante, *Economie Appliquée—Archives de l'Institut de Science Economique Appliquée*, Paris, Nos. 2-3, April-September, 1948.

In the traditional theory, the nation is only relevant as being the area within which labour and capital are perfectly mobile—whereas mobility between countries is small or non-existent. Thus wage rates and interest rates may differ between countries, but otherwise the grouping of firms in nations is generally treated as a matter of little importance. However if one government rules over a nation which is responsible for a large portion of the world's trade, that government does acquire a position of power, and the existence of economic power may well be dangerous for the other countries of the world which, by virtue of their divisions, have less power. It may be argued therefore that the other nations must form themselves into blocks which by the fusion of smaller economies will be able to withstand the power of the large economic units. The argument may well go further and insist that military power is a result of economic power and that the formation of these blocks is the only means for the smaller nations to retain political independence. On the wider political and strategical aspects I shall have nothing to say, but the economic problems must be considered.

It is important to consider the ways in which this power can operate. The major characteristic of a powerful country is that it is responsible for a much larger proportion of world output than any other single country and that it has a large surplus over essential needs which can be made available for overseas lending or for the ends of economic (or military) policy.[1] Such a country can then influence by its actions the affairs of any one other country while other countries, so long as they act individually, cannot retaliate. In the world of

[1]There is a danger of being too much impressed by the only two capitalist examples we know : Britain in the nineteenth century and America to-day. Economic power may well take other forms under rather different conditions. If we are to avoid thinking exclusively of present American policy, we should do well to keep the British example in mind.

My phrasing suggests that there can only be one economically powerful country in the world at any one time. This of course would be wrong ; Germany in the thirties was a secondary centre of economic power, which doubtless could have been, but was not, attacked with economic means by America. Similarly, to-day Russia enjoys and exploits a very great economic power over Eastern Europe.

liberal theory this does not matter because countries are not economic units with an economic policy : only units of decision can exercise power and in the economic field only firms are units of decision. It is obvious that this theory could only apply to the most rigidly *laisser-faire* state, and that it has no relevance to the position of any important state in the world to-day.

A powerful state is in a very strong position for extorting gains from other countries by influencing its imports and exports. The extent to which it can do this depends on the tools which it is willing to use : tariffs, quotas, exchange control, exchange manipulation or bilateral bargaining. These, however, are methods which it would abandon, or at any rate severely limit if it were to enter a general agreement for the maintenance of free trade. To this extent such an agreement reduces the importance of economic power. However economic power is much more pervasive than this. A major part of economic power results from the ability to make investments abroad. Where these are directed or strongly influenced by governments they can be used to extract specially favourable treatment for the country's producers and to insist on the receiving country following an internal policy which is favourable to the lender. It has become normal practice to insist that these loans should be used only for purchases from the lender. It might seem that our international agreement must specify that loans shall never be made from government to government but always between private individuals. This would, however, involve the probability that loans would be highly intermittent and thus provoke additional instability into international trade rather than being a factor making for stability. Moreover a reversion to private lending is unlikely to achieve the desired results. Large scale international lending is only possible through the intermediary of a few large financial institutions and their common interest and common sentiments are likely to have the same effect as the conditions laid down by governments ; indeed they may well go further because they are less exposed to publicity and criticism. The private lender will want the loan spent in his own country because he can then

control it better, because he will often have financial interest in the supplying company and because of a vague feeling of national solidarity. Thus the lending country will be able to sell its goods even though they may be no better and no cheaper than can be obtained elsewhere. Similarly private lenders are not likely to invest in a country where economic policy is felt to be inimical to their interests. There is no solution ; if loans are to be made at all they convey a power to the lender for as long as the borrower hopes for more. When the borrower decides to dispense with further loans, the lender often has to use his other power to enforce payments. A related aspect of economic power is the possibility of making gifts or granting concessions to other countries so as to induce them to follow a policy in the interest of the powerful country.

Even when the state is not making use of its power position, trade is not normally conducted by small units. Where branches of industry in the powerful country are monopolised, free trade may well allow its monopolies to dominate the world market and extort specially favourable terms. In some, possibly many, cases of course free trade will destroy these monopolies, but where there are important technical reasons for concentration it will strengthen them.

Finally, the trade fluctuations of the powerful country will be imposed on the rest of the world ; if it is unsuccessful in producing stability—and its very wealth makes the problem particularly difficult—then other countries cannot escape the consequences. They may, it is true, be able to avoid serious unemployment but they cannot avoid a readjustment of their resources which may well be very painful—so painful indeed that unemployment may be a preferred alternative.

The burden of the problem is simply that wealth breeds more wealth—though in the end the wealthy are always displaced by nouveaux riches—and that wealth gives power over the poor. The problem is what we should do about it now—we who are no longer the wealthy. The answer is that we can do very little ; certainly anything which makes us poorer still is no help. This rules out the suggestion of cutting ourselves off from trade with America. To do so would mean

renouncing loans we may need, which would certainly not help either in terms of our present conditions or of our chance of becoming once again a great lending country. The power that comes from wealth comes precisely because the poor live better by working for the wealthy than from boycotting them—in default of a means by which the poor can seize it for themselves. The same is true as between countries.

The formation of regional blocks has been advocated as a means of equalising the power relationship. This can only be partially successful—grouping poor countries does nothing to produce the surplus which is the chief source of power. Moreover a block cannot have the same power unless it operates in all its transactions as a single nation—unless indeed it has a single supreme government and an integrated economy. This implies the fusion of sovereign nations, which is a very attractive idea until one begins to work out its detailed consequences. Whatever the merits of a thoroughgoing Western Union may be, we should be unwise to imagine that it would liberate us from dependence on America.

The final argument with which we need concern ourselves, refers to the presumed instability of America. It is assumed that Britain and any countries with which we might associate ourselves would, if isolated from the rest of the world, be able to maintain a very high and stable level of employment whereas America will continue to suffer from slumps like that of 1929. If this were so, isolation in a sufficiently large group would be worth our while, providing it were practicable. In fact our own success in maintaining complete stability is highly problematical, and, on the other hand, any American government which allows a major slump to develop must know that it cannot survive and that capitalism itself may be threatened. In the next ten years the danger of a depression starting in Europe may be slight, but an American administration has as strong motives for acting fast and vigorously as any other, and it alone can do so without concern as to its foreign balance. Doubtless it will not be able to prevent some fluctuation in activity, partly owing to a reluctance to take

action in advance but chiefly owing to the unavoidable limitations of a full employment policy anywhere, given the inadequacy of our present methods of economic forecasting. It is therefore unreasonable to assume that the American economy will be much more unstable than our own would be even were isolation achieved.

Even if we admit that America will have highly unstable economic conditions, there is no solution short of isolation which can preserve us from the impact. If Americans will not buy our whisky because they are now too poor, we can only sell it by reducing our prices in other markets—possibly very drastically. If we cannot, sales must fall off and ultimately unemployment appears. We may be able to maintain whisky sales by introducing a barter deal with a third country which will send us goods it is no longer able to send to America. But again, in these third markets, American supplies are cheaper and our sales fall off, unless once again we make barter agreements. The difficulty is that goods cannot indefinitely be switched from one market to another ; if America cannot be prevailed upon to buy goods she has been in the habit of buying, then the rest of the world will have a surplus of these goods. The easiest way in which they can be used is for them to become relatively cheap, rather than to bring into use all the apparatus of bilateral bargaining. However in some cases sales could only be maintained by so large a fall in relative prices as to be impossible (owing to normal price rigidities, especially for wages) and inequitable. In these cases unemployment will result, and can only be avoided by encouraging the transfer of resources to other industries ; but men cannot be peddled to and fro ; if they are fitted into other industries they will not return when exports are again required. So long as wages in the unstable export trades are, averaged over good and bad times, as high as in other industries, there is no case for moving them. Thus some unemployment would result so long as we have any trade relations, direct or indirect, with a highly unstable economy. If we want to preserve stability at all costs and to treat the existence of any unemployment as a sign of failure, we shall have to isolate our trade completely

from the unstable nation. And we should also have to stifle economic change within the country.

V.

We can now summarise the position. It is no part of my argument that *laisser-faire* always produces the ideal solution of all our economic problems. This is far from being the case, and a multitude of conscious interventions are doubtless necessary to ensure a satisfactory working of the economy. But one of the main factors we must take into account in deciding which goods we want produced is the marginal rate of substitution between pairs of goods. A price system is rather good at revealing these rates of substitution and in default of a price system we are left in almost complete ignorance. The more we multiply specific regulation the more we destroy even the approximate criteria of economic rationality which a price system affords.

But what are we to do now? We should almost certainly worsen our position to-day if we were to abolish exchange control, tariffs and quotas and to devalue the pound. This is true because other countries would not be inclined to follow our example. It is certain that our controls could benefit us, and it is likely that, on the whole, they are successful in doing so. It is equally certain that other countries' controls hurt us far more than our own help. Similarly the objection to devaluation is not that too many countries would follow, but that not enough would do so.

Our policy, then, should not be one of unilateral action, but rather of using all our power and influence to obtain international agreement which will work towards freer trade. If this should prove impossible (and the results of recent international conferences are hardly encouraging) we must perforce continue with our present policy. But we should do well not to claim it as an ideal.

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Some Results of the Distribution of Industry Act, 1945[1]

This article deals with some short-term results of the Distribution of Industry Act, 1945—first in the Development Areas and then in the country generally.

The additional employment ascribable to that Act is considered first. One way of gauging this is by reference to figures of insured persons in employment. Between July, 1945 and July, 1947, the share of the national total recorded by the Development Areas fell from 16·33 to 15·54 per cent. This suggests that the Act was not very effective. But the figure of 16·33 per cent. for July, 1945, compares with the much smaller figure of 14·52 per cent. for July, 1939. And since the rise between 1939-45 was predominantly due to orders for war goods it might be expected that after the war ended the figure would return to round about the pre-war (1939) level. As it did not do so, but remained well above it, the inference is that some comprehensive and pervasive factor such as the Distribution of Industry Act was responsible. This inference can be supported. Thus, whereas the Development Areas' share of total insured employment fell between 1945 and 1947 by about one-ninth, that in constructional industries rose by nearly one-sixth while that in capital goods industries continued unchanged. And it was to these two categories that the greater number of factory projects under the Act belonged; for the first instalment of employment caused by the Act was in former war factories and constructional works of all kinds—including new factory building. Therefore, instead of the conclusion first suggested, it would seem that although insured employment did not grow at the national rate during 1945-47 it would have grown still less but for the effects of the Act.[2]

[1]This article is an abbreviated version of a paper read to section F of the British Association for the Advancement of Science at the 1948 meeting.

[2]During 1929-39 insured employment in the Development Areas increased at rather more than one-quarter of the national rate; during 1945-47 at rather more than one-half.

Another way of gauging the additional employment due to the 1945 Act is available. At 30th June, 1948, total factory employment recorded by schemes approved between the three previous years was nearly 105,000. Besides the factory employment, other direct employment was created by the Act *e.g.* the actual building of factories, additions to public utility services and other services needed by industry, special housing, and production of necessary constructional materials. Indirect employment also must be reckoned. Various statistical difficulties prevent accurate estimation of the combined total of direct and indirect employment but tentative estimates suggest that it was substantial.

The vulnerability to unemployment of the Development Areas was reduced somewhat during 1945-48. The Areas are now rather less dependent upon a narrow range of industries. In July, 1945, 34·33 per cent. of the insured population was engaged in coalmining, iron and steel, shipbuilding, marine and general engineering and tinplate ; two years later the figure was 29·64 per cent. and has fallen further since. The major reason may be found in factors general to the country as a whole—especially conversion from war to peace-time production. But the Act has been partly responsible ; for many industrial projects sanctioned under it were in other industries. The broadening of the Areas' industrial structure has been brought about by the development of industries which before were less important there than in the country generally, or weakly-represented or, indeed, non-existent. The most substantial increase has occurred in constructional industries—these occupied 6·76 per cent. of the insured population in July, 1945, and 11·92 per cent. two years later. The figure for capital goods industries fell from 27·61 to 22·20 per cent. But whereas employment in old capital goods industries dropped markedly, it grew in new ones—*e.g.* electrical, mechanical and agricultural engineering. Lastly, consumption goods and service industries moved up from 51·20 to 52·40 per cent.

The Development Areas are now less engaged in economic activities prone to suffer economic depression. The decline in

their commitment to capital goods industries from 27·61 to 22·20 per cent. has been accompanied by a decrease in coal-mining and iron ore mining from 14·43 to 13·55 per cent. While total insured numbers were expanding, over 70,000 persons moved out of these industries. Moreover, although the newly-introduced capital goods industries are susceptible to cyclical depression, a number of them promise to achieve secular growth because they are industries in which this country has either a comparative cost advantage or a less comparative cost disadvantage. Among the consumption goods industries are rayon, nylon, electrical products, scientific instruments, watches and clocks, sports goods, printing and publishing. Being consumption goods industries, these should help to mitigate cyclical depression ; and being new types of production that may expand, they should steady long-term employment. Still further, the Areas have acquired 443 new factory buildings having about 13 million square feet of space during 1945-48 (June). And more factories are being built. During inter-war years modern factories suited for expanding light and medium-type industry were scarce.[1] That deficiency has now been remedied. Lastly, family incomes in the Areas are less exposed to curtailment by economic depression because (*i*) industry is more diverse ; (*ii*) the new industries employ much female labour ; (*iii*) the ratio of consumption goods and domestic market goods industries is higher.

It is possible that the productivity of labour in the Development Areas has been raised by the measures taken under the Act. Apparently, during the pre-war decade, severe and prolonged unemployment lowered labour productivity.[2] Because the distribution of industry policy has helped to lessen the fear of being thrown out of work, workpeople probably now work more willingly. Again, by helping to raise the level of demand for labour, it has increased individual and family

[1]Between 1932-38, as judged by figures of insured population, the Development Areas received under one-half of their share of factories ' opened.' The number of factories then ' closed ' was almost equal to that of factories ' opened.'

[2]Cf. Fogarty, *The Manchester School of Economic and Social Studies*, September, 1947, p. 255.

earnings. The improved physical and mental fitness may have rendered workpeople capable of working harder and more efficiently. Nor, possibly, have fuller employment and greater security of employment impaired that capacity : for post-1945 demands for labour have not matched supply. Again, labour productivity may have benefited because the new industries enable industrial skills to be put to use for which before there were few outlets. Lastly, since fewer young people have been drained away from the Areas since 1945, employers can maintain a better balance in their teams of workpeople—by blending the physical and mental capacities of older and younger persons.

How have the old-established industries in the Development Areas been affected ? Possibly their labour costs have been driven up by inability to obtain enough labour and labour of the right sorts and also by the rise of wages caused by the competition of the new industries. But since unemployment in the Areas has averaged about 5½ per cent. during 1945-48, the shortage of labour in the old industries can hardly have been acute. Moreover, the new industries have not always been in competition with the old for labour because they have absorbed women rather than men, unskilled rather than skilled, and persons who—without the Act—might have migrated. And may not the old industries have been stimulated to use labour less wastefully than before the war ? On the positive side, old-established firms have been helped by priorities to build new premises, to modernise their equipment and to acquire raw materials. They have also benefited from schemes to make essential services more efficient, less costly and more ample.

So much for the main results of the Act in the Development Areas. What have been the chief effects in the country generally ?

Not all the additional employment recorded by the Areas represented a net expansion in the country generally. Thus, but for the Act, firms might have expanded outside the Areas. Where, because of it, they did so within them, the employment concerned must be deducted. Again, there must be debited

employment which would have come into being outside the Areas but did not do so because of the Act—*e.g.* where firms would have been willing to develop elsewhere. And where firms transferred their works to the Areas the additional employment in the Areas was more or less offset by decreases in the places vacated. But there are reasons for the view that part of the additional employment in the Areas represented a net increase in the country generally. The deduction for industrial employment which, without the Act, would have taken place elsewhere than in the Areas is smaller than may appear. For the ban upon new enterprise elsewhere was not absolute. Where sufficient reasons existed for the expansion of pre-existing establishments, or the reconstitution of factories damaged by war, or the initiation of new production—all outside the Development Areas—such projects were not disallowed. A statistical indication is available. Up to 30th June, 1948, new factory buildings (for premises 5,000 square feet and over) were approved to the amount of 99,500,000 square feet in the country generally. Of this about 55 per cent. was outside the Areas. These figures do not include replacement of war-damaged factories or conversions of war factories—more of which were, in each category, outside the Areas. The case histories do not indicate that the deduction for firms transferring to the Areas was substantial; for most of these moved because of shortage of labour.

On the positive side it was of signal importance that the available supply of labour was greater in the Areas—they had nearly two-and-half times as much unemployment as the rest of the country during 1945-48. And under-employment (especially of women) was greater in the Areas. Even by 1947 the ratio of employed women to men was only 37 per cent. against 44 per cent. nationally. Relatively more factory space and other physical facilities for production existed in the Areas. Moreover, certain features of distribution of industry policy originated new employment. This occurred when new factories were built where before there were too few to absorb the supply of labour—especially non-mobile labour. The training of labour augmented the effective labour supply. The creation

of new industrial sites, the lowering of costs of factory space and improved essential services fostered new enterprise. All in all, then, the Act did lead to a net addition to the national total of employment during 1945-48.

The question next arises as to whether the Act damaged the national income by inducing industrialists to accept inferior locations. As yet, there is not sufficient knowledge about this. The following summary discussion is assisted by dividing new industrial entrants into the Areas into two broad groups—(1) those similar to industries previously well-established there; (2) those not similar to industries previously well-established there that were (*a*) comparatively mobile, and (*b*) comparatively immobile.

A substantial number of the new entrants belonged to industries already well-established in the Areas.[1] Examples include general, mechanical, constructional, mining and marine engineering; heavy chemicals; iron and steel; cotton; woollen; linen; jute; carpets; textile dyeing; soap; woodworking and sawmilling; food and drink; glass; leather; boot and shoe; electric cable. Perhaps it is not necessary to say more than that presumably such undertakings shared the locational advantages of industries succeeding in the Areas—even though there were alternative locations elsewhere.

A considerable proportion of the industries not previously well-established in the Areas were relatively mobile in that Prof. Sargant Florence's coefficient of localisation for them is low: the majority have a co-efficient of under ·40. Instances include certain foods; tobacco; furniture; light chemicals; scientific apparatus; cardboard box; glass; paper and fibre board; paints; clothing; watch and clock; sports goods; games and toys; plastic goods; motor car and cycle accessories; certain building materials; rubber goods. Being comparatively mobile, it is not axiomatic that to locate them in the Areas was disadvantageous. For land prices were usually cheaper than in other industrial areas; factory rentals were lower; essential services were rarely dearer; relatively abundant labour supply made for lower wages, while labour

[1]Approaching two-thirds in the North-Eastern Development Area.

cost was helped by readiness to work hard and the post-1945 crumbling of restrictive practices. Transport costs of materials and marketing were often rather higher,[1] but were not usually very significant for such lighter industries. Other costs were not ordinarily sufficiently burdensome to offset these favourable factors.

Less—mobile industries were more likely to suffer inferior location in the Areas. But the records show there were not many instances of movement from particular and special locations elsewhere. The reason is that the departments concerned took account of locational needs. Where economic disadvantages were likely, removal to the Areas was not urged. Case histories contain hundreds of examples of firms staying where they were, or going elsewhere than to the Areas. The refusal of building licenses and the restriction of raw materials subject to control were indeed powerful instruments to lever firms into the Areas. But it may be recalled that at least 55 per cent. of the total new factory building space and a higher proportion still of other kinds of factory building space sanctioned in 1945-48 were outside the Development Areas.

Nevertheless, it is possible that the new locations—both of comparatively mobile and comparatively immobile firms—may in some instances prove to be uneconomic. That only a few immigrant firms closed during 1945-48 does not disprove this. Again, it could be urged that the giving of assistance to firms going to the Areas constitutes evidence that location there was inferior to elsewhere. It appears, however, that nearly one half of the new factories approved were actually financed by the firms themselves. And much the greater proportion of such firms went to the Areas from other parts of the country. Moreover, the financial assistance given by the state was so modest—consisting of loans only,[2] not grants—that it could hardly be the determining factor tempting firms away from more preferred parts of the country. On the positive side, business men searching for appropriate locations

[1]Mr. Dennison has argued that such costs were not ordinarily of great significance. (*The Location of Industry and the Depressed Areas*, pp. 16 and 57).

[2]Total loans to 1st July, 1948, were £531,000.

have had, besides their own knowledge, the knowledge of location factors accumulated by the state departments concerned. The two sets of data may have proved to be more productive of the best decisions about location than either alone. Besides, the state departments can pay special regard to the national income aspects of location—by taking account of costs from the community's standpoint and ensuring that the productive resources available to the country generally are so employed as best to achieve the desired ends.

Taken together, these general points suggest that—both for comparatively mobile and comparatively immobile industries—where movement occurred to the Development Areas the national income may have been damaged by less than might at first sight appear. The one serious drawback to this verdict is that firms may have given too much weight to the greater supply of labour in the Areas during 1945-48. But if high employment may henceforth be more realisable than in the inter-war period the labour factor may prove to be more important than then. If this conclusion should prove to be unwarranted, the harm is limited inasmuch as the number of comparatively immobile firms that actually moved into the Areas during 1945-48 relative to the total was not large. And on the whole question of the possible serious consequences of inferior location it may be concluded with Mr. Dennison that : "There are, of course, many elements in efficiency, and it is rare that location is of such primary importance as to outweigh all the others." [1]

To proceed, did not the measures taken under the Act check labour mobility by stimulating firms to go to the Areas ? And was not this restriction reinforced by the prospects of work for persons not actually absorbed during 1945-48 ? In view especially of the need to step up national output then would it not have been sound policy to maximise labour mobility ? Plainly, this is a matter of first-rate importance. But the feasibility of voluntary migration from the Areas during 1945-48 was limited because during the war period, in every region except one, population grew faster than housing.

[1] *The Location of Industry and the Depressed Areas*, p. 37.

And in that region—the London and South Eastern—the loss of housing by war damage exceeded the decline of population. Such a fundamental restriction opposed the overcoming of labour supply deficiencies elsewhere during the short period 1945-48 by large scale emigration from the Areas. The fact was that housing shortage was less acute in the Areas. And most of the Areas' surplus labour was already housed there. That being so, and since less building resources were needed to construct factories in the Areas than to erect houses elsewhere, increased industrial output could be obtained more speedily by building factories in the Areas.[1] As for the argument that local deficiencies of labour supply should have been met by migration from the Areas, the readier means was to devise methods of drawing off local labour from less-essential production.

There is also an argument of expediency. In general, the workpeople of the Areas are hostile to emigration—chiefly because of the unsuccessful governmental schemes of pre-war times. Perhaps it was not wise to invite industrial troubles by instigating large-scale migration. Nor should the distortion of the age and skill structure of the Areas' working population caused by it be overlooked.

Another particular point is perhaps worth mention. The high incidence of industrial disease and disability upon coal-miners—nearly one-half of whom are found in the Areas—restricted the number of those apparently free to migrate.

Lastly, the Act restrained labour mobility less than may be supposed. During 1945-48 the civilian population of the Areas grew more slowly than the national rate. To match this, they should have had about 190,000 more persons than the estimate for 1948. Presumably migration was the major—though not the sole—cause of the discrepancy. And many who migrated went to other parts of the country.[2] Even though the measures taken under the Act helped to drain pools of unemployed labour within the Areas, and so restrained

[1]Cf. Sargant Florence, *The Industrial Future of Great Britain*, p. 197.

[2]Another study, now in progress, promises to show that migration from the Development Areas was on a greater scale than from other regions of the country during 1945-48.

the inflow of spare labour into the old basic industries, after all, this was one of the intentions of the Act. For, had these expanded more than they did in 1945-48, if economic depression were to occur later the unemployment resulting would be all the greater.

To turn to another result of the Act, it is possible that the country's long-term interest has been damaged by the undue expansion in the Areas of certain types of production. The list of new industries there suggests that some produce less-essential goods. In view of the balance of payments problem, over-expansion of these would be an unwise use of resources. And it may be that industrialists have been encouraged to increase production in specific industries in the Areas without sufficient regard to the total national capacity in these.

On the first matter, up to 30th June, 1948, some 43 per cent. of the new factory building schemes recorded in the Areas relate to capital goods industries.[1] Similarly to the country generally, during 1945-48, the greater proportion of these were biassed to export or capable of substituting imports. Another 21 per cent. related to textiles, chemicals, paper and leather products. These also were closely connected with export or import-saving. Roughly two-thirds, therefore, of the factory projects sanctioned were capable of assisting the country's international position. On the second matter, such light industries as radio and household electric appliances have recently had to restrict output because it exceeded demand. Other new ventures may run into similar difficulty. Nevertheless, it is a moot point whether the measures taken under the Act should receive the entire blame. For decisions to undertake particular sorts of productive activity were the decisions of the industrialists concerned. And would mistakes of this kind have been avoided if there had been no Distribution of Industry Act? [2]

Certain positive aspects of the distribution of industry policy engendered by the Act may be broached. It may be

[1]The comparable national figure was 46 per cent.

[2]Cf. Pigou, *Aspects of British Economic History*, 1918-25, p. 53 on the mistakes made during those years.

suggested that during 1945-48 it has helped to achieve a fuller use of the country's economic resources. For, by building factories where there was spare labour which was already housed and equipped with necessary social services, the need to use up more resources in building houses and social equipment elsewhere was reduced. The policy also eased the strain upon essential services such as local transport, water, gas and drainage in places where industry and people were thick on the ground—while putting to fuller use essential services in the Areas that were under-utilised. Much was done—especially in South Wales—to use existing buildings to house manufacturing enterprise. The policy, furthermore, avoided the wasting of 130 war factories that had been placed in the Areas by allocating these for peace-time production. This was a distinctly useful means of economising physical resources since about one-quarter of the total war factory space was contained in the Areas. Lastly, the policy made possible a fuller utilisation of the country's labour resources—including women's labour and sub-normal labour. During 1945-48, when labour was a scarce factor of production, this helped production. Incidentally, by lowering the demand for labour in industrial districts where labour was in acutely short supply, the policy helped to restrain increases in labour cost caused by the abnormal bargaining strength of labour, the poaching of workpeople by employers and high labour turnover.

The measures taken under the Act have done something towards creating or stimulating new centres of industrial enterprise. They have done this especially in the Areas themselves—chiefly by means of trading estates and group sites. Altogether twenty trading estates are in being and more are projected. The deliberate 'steering' to particular districts of firms embarking upon new sorts of manufacture or technical innovations in manufacture of old sorts (*e.g.* nylon, chemicals, watches and clocks, the new strip mill at Margam and the beam mill on the north-east coast) has fostered new centres of enterprise or imparted new vitality to old ones. The provision of a new or more efficient complex of essential industrial services in certain districts has been ancillary to

such an aim. The systematic training and retraining of labour, done on a somewhat comprehensive scale, has been a help to new enterprise. Although, as the Select Committee on Estimates [1] pointed out—"In particular, they (the Committee) were impressed by the enterprise displayed in the Development Areas themselves," possibly this enterprise could not have borne much fruit without the driving force imparted by the distribution of industry policy resulting from the Act.

New enterprise has been fostered in other parts of the country as well. In some of these, old industries had languished, or a new stimulus to industrial progress was needed—Merseyside, Barrow, South Yorkshire, the Potteries, Forest of Dean, Portsmouth, Hull. In others again, industrial re-adaptation to make products needed to expand export or to replace imports subject to restriction was facilitated by the grant of licences to build new factories or modify old ones, by preferences in the supply of raw materials and by assistance in obtaining necessary productive equipment.

A summary of the main results of the Distribution of Industry Act during such a short period as 1945-48 must be tentative—indeed speculative. Evidently, however, the Development Areas have gained. They have gained employment ; they are less vulnerable to concentrated unemployment ; the level of incomes—family incomes especially—has been raised ; they have brighter prospects than before the war of future industrial growth. And if and when serious unemployment reappears, they are better equipped to resist it—not less so because they are more capable of benefiting from national anti-unemployment measures. While these gains have not been equally distributed over the Areas, few parts have been left entirely untouched.

The country generally—even on the negative side—has not been markedly affected for the worse. Since the greater part of the industrial development that has taken place in the Areas is not unsuited to them for economic reasons the national loss by inferior location is not pronounced. The restriction of labour mobility over large geographical regions

[1]Second Report. 1946-47, g. 54.

has been decidedly smaller and less deleterious than might be expected. The curtailment of new enterprise outside the Development Areas has been less sweeping than in a scheme exclusively concerned to foster the interests of the Areas. The country's export effort does not seem to have been significantly weakened. Nor has distribution of industry policy neglected the contribution to increased export which the Areas can make. So much on the negative side. On the positive side, the country's total labour resources have been more comprehensively mobilised during 1945-48 than without the Act. Besides, local scarcities of labour might have been accentuated in districts which exerted high and expansive demands for labour during these years if less industry had been diverted from them. Some physical productive resources such as factories and workshops, utility services and transport have, in addition, been used more efficiently because the load upon them has been more equally adjusted to capacity during a period when demands upon them have been pressing. In these, and in other ways, the retarding and dislocative consequences for economic activity of the congestion of industry and workpeople in the conurbations singled out by the Barlow Commission have been checked. Some impetus—and possibly a significant impulse—has been given to the growth of new centres of industrial enterprise and also to kinds of economic activity justified by comparative costs. Lastly, if, as Prof. Lewis has argued recently,[1] more industrial diversification and less geographical concentration of industry are needed over the country as a whole to ensure a greater mobility of economic resources in the future, the Distribution of Industry Act, 1945, and the measures to which it has given rise, have made a useful contribution.

[1] *The Manchester School of Economic and Social Studies*, May, 1948, p. 162.

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Retail Sales per Employee

(Based on a special study of the departmental sales and employees—distributive and transport—in retail co-operative societies, 1938 to 1947, and published with the permission of the National Executive of the Co-operative Union Limited)

Introduction

Current discussion on matters concerning distribution—and especially that part of distribution represented by retailing—tends to centre on the costs of distribution, particularly the costs arising from the personal element, *i.e.*, the staff, or manpower.

Clearly a factor of extreme importance in this respect is the volume of work per employee. Generally, work per employee is reckoned on the basis of cash sales. In recent years, however, and particularly during the war years, changes in prices for various reasons—including the building of a large proportion of indirect taxation into the price structure—have caused comparisons on the basis of cash values to be greatly limited in usefulness except for the purpose of comparing the figures of one organisation with the figures of another. On the basis of cash values it is not possible to compare adequately the statistics of one year with other years, since cash values do not reflect changes in volume trade.

Thus, it is necessary to attempt an adjustment of cash sales per employee to a common standard for all years, before the sales, or output per employee, can be assessed and measured comparatively on something approaching a volume basis.

Scope and Method of Enquiry

It was with the above factors in mind that an exploratory statistical survey on which this article is written was attempted. It is recognised that the work is in some measure incomplete and subject to a degree of statistical qualification. It is intended, however, to represent something in the nature of pioneer statistical research into an important subject, and if it provokes interest and further study it will have accomplished one of its purposes.

A nucleus group of retail distributive co-operative societies was selected. This group consisted of fifty-seven societies, which had furnished detailed particulars of their employees and cash sales on a consistent departmentalised basis to the Co-operative Union Limited for each of the years 1938 to 1947. The societies selected were spread over the eight geographical Sections of the Co-operative Union Limited in England, Wales and Scotland, and were also suitable for grouping in size categories. Particulars of (*a*) the number of societies, and (*b*) their membership, as they fall into the various geographical Sections and the size groups adopted for the survey, are stated later.

Two methods were adopted in the computation of the sales of the societies. In the first place, the sales were compiled on the basis of cash values for the respective years. In the second place, an attempt was made, by the use of the figures for personal expenditure on consumer goods and services (published in the White Papers "National Income and Expenditure of the United Kingdom,") to adjust the cash sales to a basis representing the 1938 price level for all the years in the survey.

The figures were so adjusted (*a*) on a broad departmental grouping covering (*i*) Food, plus household goods normally sold in food shops, (*ii*) Dry Goods, *i.e.*, apparel, footwear, furniture, furnishings and hardware, and (*iii*) Coal, and then (*b*) on the basis of the total sales of the aforementioned departments, plus the sales of the Pharmacy Department. (The departmental breakdown used is the lowest possible breakdown of the co-operative statistics for purposes of adjustment on the basis of the categories of goods published in the White Papers).

This separation of the statistics of a nucleus group of societies in order to provide an appropriate sample, is to allow a much more accurate statistical investigation for the purpose in question than an investigation based on an aggregation of the statistics of all retail distributive co-operative societies in the country, because in aggregating the statistics of all societies

variations in statistical returns tend to be obscured. At the same time it is clear that the conclusions attaching to this sample investigation are roughly analogous with the conclusions which can be drawn from an examination of the aggregate co-operative statistics published annually, if the same processes are applied to the aggregate statistics as those described herein.

The sample which has been taken is, in its entirety, a fairly substantial one. This will be appreciated when it is recognised that in 1947 the fifty-seven societies selected had a total membership of over one-and-a-half-million, the retail cash sales of the societies as included in the sample amounted to over £60 millions, and the total number of the employees of the societies included in the sample was approaching 28,000.

The following figures indicate for 1947 (*a*) the number of societies and their membership in the geographical Sections previously referred to, and, (*b*) the number of the societies and their membership on the basis of the size of society categories adopted for the purpose of this survey.

SOCIETIES ON A GEOGRAPHICAL BASIS

Section	Number of Societies	1947 Membership
Scottish	7	93,299
Northern	7	152,003
North Eastern	6	166,154
North Western	10	251,829
Midland	10	275,656
Southern	9	420,555
Western	4	30,000
South Western	4	122,220
Totals	57	1,511,716

SOCIETIES ON A SIZE OF MEMBERSHIP GROUPING

Size Group	Number of Societies	1947 Membership
Over 50,000	10	847,524
20,001 to 50,000	13	388,794
10,001 to 20,000	11	149,587
5,001 to 10,000	12	100,346
5,000 and under	11	25,465
Totals	57	1,511,716

Employees

The number of employees for the fifty-seven societies covered by the survey and for each of the years 1938 to 1947 are as follows :—

	Men		Women		Juniors (under 18)		Total
	No.	%	No.	%	No.	%	
1938	15,922	63	4,137	16	5,383	21	25,442
1939	15,928	61	4,501	17	5,563	22	25,992
1940	13,482	48	7,977	28	6,606	24	28,065
1941	11,057	41	9,374	35	6,494	24	26,925
1942	10,152	38	9,642	36	7,065	26	26,859
1943	9,636	36	10,079	38	6,915	26	26,630
1944	9,519	36	9,789	37	6,859	27	26,167
1945	10,439	39	9,538	36	6,687	25	26,664
1946	15,089	56	6,817	25	5,166	19	27,072
1947	16,129	58	7,045	25	4,638	17	27,812

The above statistics represent more than selling employees. They are, for the most part, distributive and transport employees, but the transport element involved is closely linked with distribution, and it has to be taken account of, particularly in relation to such commodities as bread, milk and coal. Care has been taken to use only the figures of societies which appear to have followed instructions to indicate a figure for departmental employees including appropriate transport

employees and roundsmen. Certainly, the figures of each society in the survey seem to have been compiled on a consistent basis for each of the years of the survey and thus, as near as possible, like has been compared with like in each case.

Mention should also be made of part-time employees, for an element of part-time employment entered into the statistics for the war years. Part-time employment, however, was not a very substantial factor in the statistics of co-operative societies, but where it existed the usual procedure was for societies to count two part-time employees as one full-time employee in completing the returns from which the figures in the survey are taken for compilation.

Between 1938 and 1947 there was a net increase in the total number of employees in the departments covered by the survey of 2,370, or 9·32 per cent. The consequences of the labour position in the war years is very noticeable. From 1939 until 1944 there were consistent decreases in the number of male employees whilst, on the other hand, the number of female employees and juniors increased between 1938 and 1943. In the years 1945 to 1947 the number of male employees increased again, rising sharply in 1946, when the full effects of demobilisation were demonstrated. From 1943 to 1946 the number of female employees was decreasing, with a sharp decrease in 1946.

The same trend relating to the composition of the employee statistics is indicated for the most part when they are separated in line with the geographical sections, or the size group categories of societies, or the main departmental groupings. There is, however, considerable variation in the composition of the various sets of employee statistics both in the first year, 1938, and in the last year, 1947, as in (*a*) men, and (*b*) women, and (*c*) juniors, *i.e.*, persons under eighteen years of age. There is also considerable variation in the separate groupings of the employee statistics in so far as the net change between 1938 and 1947 is concerned. It seems advisable before proceeding to present statistics relating to trade per employee to discuss the results of an analysis of the employees of the societies in the various groupings used in the survey.

In 1938 the proportion of male employees in the Scottish Section was much lower than the average indicated in the full table shown above, and the proportion of female employees and juniors was higher. The proportions for the Scottish Section were 43 per cent. men, 28 per cent. women, and 29 per cent. juniors. The proportions for the Northern Section were also different from the average and fell roughly between the proportions for the Scottish Section and the proportions in the above full table relating to the total employees in the survey. The proportions in the Northern Section in 1938 were 55 per cent. men, 21 per cent. women, and 24 per cent. juniors. In the Midland Section and the Western Section in 1938 the proportions as between women and juniors varied substantially from the general average, for in these two geographical sections there was a lower proportion of women and a higher proportion of juniors.

In 1947 both the Scottish and the Northern Sections still had a proportion of men employees much lower than the average, and a proportion of women employees or juniors which was higher than the average. The Western Section in 1947 also had a proportion of men employees much lower than the average and in the case of this Section in 1947, a much higher proportion of juniors.

In the analysis of employees on a size of membership grouping, there is no violent change in the proportions of men, women and juniors from the proportions indicated in the table of total employees in the survey as shown above.

In the analysis of employees on a broad departmental basis both in 1938 and in 1947, the proportion represented by men in the foodstuffs departments was much higher than the proportions represented by women and juniors. In the dry goods departments the proportions represented by women both in 1938 and 1947 were much higher than the proportions represented by men. In the coal department, of course, the employees are almost entirely men. These departmental proportions follow the usual trade practice in the appropriate departmental groupings, and the proportions can be regarded as "normal," with the exception that in the war

years the proportion of men employees in the foodstuffs departments fell heavily, and the fall was balanced by a heavy increase in the proportions represented by women and juniors.

There is, however, considerable variation in the separate groupings in so far as the net change in employees between 1938 and 1947 is concerned. This is true both in regard to the groups representing the geographical Sections and the groups on a size of society basis. There was a much higher percentage increase in total employees in the Northern and Western Sections than the increase in the total number of employees shown in the full table above, for in the Northern Section the net increase in employees was 25·9 per cent. and in the Western Section it was 36·2 per cent. In the Scottish Section the net increase in the number of employees was 5·5 per cent. and in the Southern Section there was a net decrease of 3·3 per cent. These changes in the employee figures in the various geographical areas reflected the change from depressed pre-war economic conditions to full employment in the war and post-war years. The decrease in the employees in the Southern Section suggests that even by 1947 the position in that area had not been restored to the pre-war level.

The net percentage increases in employees between 1938 and 1947 in the size of society groupings are very interesting. In the group of ten societies with a membership of over 50,000 each, the net increase was 6·8 per cent., and in the group of thirteen societies with a membership between 20,001 to 50,000 the net increase was 8·7 per cent., whereas in the group of eleven societies with a membership between 10,001 to 20,000 the increase was 17 per cent., and in the group of twelve societies with a membership of 5,001 to 10,000 the increase was 14·8 per cent. There is a larger increase however of 57·8 per cent. in the group of eleven societies with a membership of 5,000 and under, and this increase raises a query. It is suggested that two main reasons may be responsible for the larger percentage increases in the smaller society size groupings. In the first place, additional overhead work such as that brought about by controls entailing additional staff may cause the element to be more strongly marked in a small organisation

than in a big one. There are certain tasks which must be performed by both large and small organisations in this connection, and in a large organisation such overhead work is more easily merged in larger numbers. In the second place, where the numbers are very small, a few additional employees is more obviously noticeable from a statistical point of view. The classic example is where the work becomes too much for one employee and might represent, say, one-and-a-half employees, but at once the number of employees has to be increased to two. This feature, likewise, representing a real increase in the work, is more readily merged in larger numbers. The point in question is one which continually arises in statistics and is caused by fractional increases in work having to be interpreted in whole numbers so far as employees are concerned.

In the groupings on a broad departmental basis, the different percentage changes in employees reflect conditions fairly accurately. Between 1938 and 1947 there was for example a net decrease in employees in the dry goods departments of 6·2 per cent. against an increase in the foodstuffs departments and the coal department of 12 per cent. and 6·4 per cent. respectively. The net decrease in the employees in the dry goods departments was no doubt due to the extraordinary depression of those trades in the years covered by the survey. Government policy was to subdue such trade under a war-time economy, both so far as supplies and employees were concerned. Government policy in regard to employment was more lenient in the case of the foodstuffs departments.

Trade per Employee

The main purpose of this survey has been to examine the trade per employee in such a way as to observe the trend of change during the years from 1938 *to* 1947. As indicated in the Introduction, it is not sufficient to make such a comparison on the basis of cash sales, although the work leading to a comparison must commence with the cash sales figures. It is vital, however, to adopt some method of adjustment of the

cash sales figures in order to arrive at an approximate volume basis of comparison for the period, and such an adjustment has thus been made in the figures on the lines referred to previously in this report.

Tables I to III which follow, set out the results of the investigations pursued in this survey. Table I sets out the figures of the societies on a geographical basis. Table II sets out the figures on a size of society grouping, and Table III sets out the figures on the broad departmental grouping adopted for the survey. In each of the three Tables, the method has been adopted of indicating (A) cash sales figures, and (B) adjusted sales figures.

It should be stated emphatically that it is not considered as fundamentally sound to compare, on the basis of the figures so presented in these Tables, the average trade per employee within the respective geographical areas or within the respective size of society groupings, because of wide differences in the practices of societies both in regard to the constitution of the total employee figures (*e.g.* the permanently higher proportion of female employees in the Scottish Section, and to a lesser extent in the Northern Section) and the wide differences in the usages and practices with regard to the work of employees. For example, some societies have permanently a much larger proportion of female and junior employees than other societies, and in some instances this tendency is noticeable in relation to the groups of societies in certain areas. Likewise, some societies adopt different practices with regard to what is included in their total of distributive employees, particularly in so far as such elements as errand boys, cashiers, and deliverers are concerned. Whilst the figures in the respective groupings are commented on briefly herein from a comparative point of view, the important measurement undertaken in the survey is that concerned with the changes between 1938 and 1947. When the figures are compiled on the same basis for each of the years, the trend of change between 1938 and 1947 should be possible of measurement in a fairly broad manner. The difference in the constitution of the employee statistics in the geographical areas and the differences in usage and practice

will undoubtedly have an effect on the amount of trade per employee, either unadjusted or adjusted, in any of the years covered in the survey, and these factors may have a bearing on the substantial difference in the figures as between one area and another, although the purpose of the survey is not to attempt an explanation of these differences.

It will be seen from the figures in Table I that in 1938 unadjusted cash sales indicated the highest trade per employee in the North-Western Section, followed next by the Midland, North-Eastern and Northern Sections. The lowest figure was indicated in the South-Western Section. By 1947 the highest figure was in the Scottish Section followed next by the North-Western Section, the Northern Section and the Midland Section. The South-Western Section still indicated the lowest figure in 1947 with the figure for the Western Section very close to it.

The same order of the figures on a Sectional basis obviously follows through in series B setting out the trade per employee on the basis of adjusted values.

Index numbers on a geographical basis setting out the changes between 1938 and 1947 for trade per employee both on an unadjusted basis and on an adjusted basis, have been calculated from Table I but are not published here. On an adjusted basis the trade per employee in total had fallen to an index of 82 in 1947, this representing a decrease of 18 per cent. Four of the geographical Sections in 1947 had an index higher than that based on the total figures, namely, the Scottish Section 92, the Southern Section 87, and the Northern and South-Western Sections with 85. The lowest index figures were in the North-Eastern Section and the North-Western Section which both had an index of 75.

In Table II the figures of trade per employee on an unadjusted basis and on an adjusted basis are set out on a size of society grouping. In 1938 the highest figure for trade per employee was in the group of societies with a membership of 5,000 and under. There was a considerable gap between the figures in this size group and the figures in the next largest size group of societies with a membership of 5,001 to 10,000, but

this latter size group had the next best figure, whereas in the three larger size groups the figures of trade per employee were very close. By 1947 the group of societies with a membership of 5,000 and under had lost its premier position in this respect and the best figure was in the group of societies with a membership of 5,001 to 10,000, followed by the next largest group of societies with 10,001 to 20,000 members ; the small societies of 5,000 and under having dropped to third place in this Table. As a matter of fact, by 1947, the figures of unadjusted sales per employee (and the figures of adjusted sales per employee) in the various size groupings were much closer to each other than in 1938.

The index numbers (not published) based on the figures of amounts in Table II measure the change between 1938 and 1947. The small societies with a membership of 5,000 and under indicated the heaviest fall in trade per employee between these years. On adjusted sales the 1947 index in this group was 64. The figures in only one size group of societies, that is the group of societies with 10,001 to 20,000 members each, had an index higher than the index based on the total figures, the index in this group being 88. The societies in the groups representing 5,001 to 10,000 members, 20,001 to 50,000 members and over 50,000 members all had an index of 82, indicating that the trend of change per employee in the societies in these three size groupings had been exactly the same between 1938 and 1947, although the trend of change in these three groupings in the intermediate years was different.

In Table III the figures are set out on the broad departmental grouping, already explained, as adopted in the survey, again in both unadjusted and adjusted values. It will be noted that in 1938 there was not a wide difference in the figures of trade per employee in the departmental groupings stated. The best figure was in the coal department whilst in the foodstuffs departments and the dry goods departments the figures were very close. By 1947 however the position had varied considerably. The figure of trade per employee on an adjusted basis was still the highest in the coal department with the figure for the dry goods department a close second,

and considerably better than the figure for the foodstuffs departments. The figure for the foodstuffs departments had obviously pulled down the figure based on the total of all departments.

The index numbers represent the changes between 1938 and 1947 on the same departmental basis. The best position of all was indicated in the dry goods departments where the index on adjusted values was 97 marking only a slight decrease compared with 1938. The index for these departments had been as low as 74 in 1943 and 1945, but had risen sharply in 1946 and 1947. The figure for the coal department [1] was 90, which was lower than it had been in the middle war years, and the figure for the foodstuffs department was 82. (It must be reiterated that in the total index number of 82, representing the adjusted values of trade per employee in 1947, the figures for the pharmacy department are included with the figures of the other three main departmental groupings, although it is not possible to show the figures of the pharmacy department separately, owing to the lack of a direct basis of adjustment for the pharmacy department alone on the basis of the figures for consumer expenditure given in the White Papers).

The greatest decrease was clearly in the middle war years when the index figure for the total sales covered by the survey was more than 20 per cent. below the 1938 level—see 1941 to 1943. It was in these years that the percentage of regular male employees was considerably less than usual, and there was a higher proportion of temporary female employees and juniors.

Conclusion

It is clear that having taken account of the division of the figures into various categories and groupings, there is, in general, a result which points to a decrease in volume trade per employee between 1938 and 1947, although it is not possible to assess the change accurately. This is an important conclusion. The decrease was dominantly in the foodstuffs

[1] It is suggested that in a period of short supplies the employees of the coal department are sometimes used in other transport duties, and this should be taken into account in interpreting the index relating to the coal department.

department in 1947 (although not in the years 1942 to 1946). In 1947 the decrease in the foodstuffs department was 18 per cent. and in the coal department it was 10 per cent., and in the dry goods departments it was only 3 per cent.

The figures in the foodstuffs departments grouping represent more than 75 per cent. of the total trade figures used in the survey, and it must be noted that the main tobacco and cigarettes trade of retail co-operative societies is transacted through the foodstuffs departments. The adjustment of sales in the survey has allowed for this latter factor, subject to any dubiety in regard to the White Paper figures, but it is not possible to calculate the offset in the figures caused by the quick sale of a highly priced commodity such as tobacco and cigarettes. It may be that the change in the supply and price position of tobacco and cigarettes has confused the issue here between 1946 and 1947.

It is necessary to state, however, that within the figures of the foodstuffs department used in the survey there are likely to be other factors obscured, in so far as trade per employee is concerned, such as, for example, by a fairly substantial difference in trend in the trade per employee in the milk department. It has not been possible to separate the figures of the milk department from the figures of the foodstuffs departments in total in the survey and to adjust the figures of the milk department for price changes, because there is no basis for such an adjustment contained in the figures in the White Papers. Accepting, however, a broad estimate of about 40 per cent. in the increase in the price of liquid milk between 1938 and 1947—and such milk figures included in the survey represent about 16·5 per cent. of the figures of the total food departments in 1947—it would appear that the volume trade per employee in the milk department has actually increased somewhat between 1938 and 1947. It is clear, therefore, that whilst the largest percentage decrease in volume trade per employee is indicated in the foodstuffs departments in the aggregate, the position in the grocery and provisions department (in which tobacco and cigarettes are sold) taken separately show the most striking decreases of all in 1947, because if there

is a better trend in the case of the milk department alone, the average for the foodstuffs departments without milk would be even lower.

It would be wrong, however, to allow these general conclusions to pass without qualification. There are a number of important reasons why the volume trade per employee should be less in 1947 than it was in 1938, particularly in the case of certain departments. Indeed, there are reasons why the volume trade per employee, as indicated by the Tables, was considerably less in the middle years of the war, namely, 1942, 1943, and 1944, than in the later years. The general conclusion does not necessarily mean that employees were not working as hard, or that they had less work to perform. Nevertheless the consequences of this general conclusion in regard to lower volume trade per employee, on the wage cost per £ of sales of societies is obvious.

A factor in retail distribution which it is quite impossible to measure is the amount of work in which the employee is involved due to controls governing rationing and price regulation. A good deal of clerical and administrative work in connection with these controls has to be transacted actually in the shop. This takes up an amount of the time of the employee which cannot be assessed statistically. Again, rationing and short supplies mean that individual purchases have to be made up in very small quantities, which is certainly expensive from the point of view of the time of the employee. This is evidenced strongly in the foodstuffs departments concerned with the sale of grocery and provisions and meat. That is not the only factor, however, concerned with short supplies. There is certainly, in addition, a good deal of what might be described as "negative salesmanship," that is, dealing with customers who are requesting goods which are not available, or which are in very short supply, and dealing with customers who either have to be turned away in a completely negative sense or who have to be dealt with in order to seek some substitute for what they originally required. Taking all these factors into consideration, which are the direct result of controls and short supplies, it is reasonable to suggest that

a considerable fall in the trade per employee in the years since 1938 might be expected, for in 1938 there were no such controls and no shortage of supplies, and individual purchases could be dealt with speedily and in much larger quantities.

Linked with this particular qualification about controls, and, indeed, as an integral part of the qualification, account has to be taken also of the difference in the policy of the Government as directed towards certain sections of home trade in consumer goods. In the milk department, for example, it has been part of the Government's social policy to maintain and to increase the supplies of milk to the families with nursing and expectant mothers and young children, etc. That may have helped the figures of trade per employee in the milk department to show up better than the figures in the other foodstuffs departments, where many commodities have to be sold in small quantities and where some important lines are absent from the shops, or almost absent.

It is extremely doubtful whether it is possible to make any absolutely sound statistical comparison, so far as the work actually performed by the employee is concerned, between (*a*) a period of normally sufficient supplies and a period of short supplies, or between (*b*) a period of free trade and a period of strict Government control. Nevertheless, some kind of basic comparison based on estimated volume trade should be attempted, if only to correct the misconceptions which can arise from the highly inflationary element contained in the statistics of cash trade.

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TABLE I

AVERAGE TRADE PER EMPLOYEE—GEOGRAPHICAL AREAS

GEOGRAPHICAL AREAS		1938 £	1939 £	1940 £	1941 £	1942 £	1943 £	1944 £	1945 £	1946 £	1947 £
Scottish ... ... (7)	A	1,414	1,463	1,564	1,764	1,895	2,089	2,220	2,145	2,268	2,407
	B	*1,414*	*1,420*	*1,262*	*1,260*	*1,263*	*1,357*	*1,414*	*1,332*	*1,375*	*1,301*
Northern ... ... (7)	A	1,496	1,548	1,553	1,613	1,719	1,758	1,912	1,958	2,196	2,366
	B	*1,496*	*1,503*	*1,253*	*1,152*	*1,146*	*1,141*	*1,218*	*1,216*	*1,331*	*1,279*
North Eastern ... (6)	A	1,536	1,492	1,543	1,508	1,670	1,694	1,807	1,897	2,007	2,132
	B	*1,536*	*1,448*	*1,244*	*1,077*	*1.114*	*1,100*	*1,151*	*1,179*	*1,216*	*1,152*
North Western ... (10)	A	1,726	1,689	1,642	1,744	1,781	1,856	1,913	2,029	2,190	2,383
	B	*1,726*	*1,639*	*1,324*	*1,246*	*1,187*	*1,205*	*1,219*	*1,260*	*1,327*	*1,288*
Midland ... ... (10)	A	1,609	1,672	1,635	1,730	1,747	1,885	1,999	1,965	2,120	2,360
	B	*1,609*	*1,623*	*1,318*	*1,235*	*1,164*	*1,224*	*1,273*	*1,220*	*1,285*	*1,275*
Southern ... ... (9)	A	1,270	1,280	1,324	1,421	1,458	1,560	1,738	1,722	1,910	2,042
	B	*1,270*	*1,243*	*1,068*	*1,015*	972	*1,013*	*1,107*	*1,070*	*1,157*	*1,104*
Western ... ... (4)	A	1,321	1,298	1,353	1,429	1,473	1,530	1,579	1,635	1,815	1,898
	B	*1,321*	*1,260*	*1,091*	*1,021*	982	993	*1,005*	*1,016*	*1,100*	*1,026*
South Western ... (4)	A	1,193	1,229	1,283	1,329	1,405	1,487	1,622	1,650	1,755	1,881
	B	*1,193*	*1,193*	*1,034*	949	936	966	*1,033*	*1,025*	*1,064*	*1,017*
All Areas ... ... (57)	A	1,453	1,472	1,497	1,585	1,651	1,742	1,867	1,889	2,047	2,212
	B	*1,453*	*1,429*	*1,207*	*1,132*	*1,110*	*1,131*	*1,189*	*1,173*	*1,241*	*1,195*

N.B.—The figures in brackets at the side of the groups in each table relate to the number of societies.
Series A, sales at current prices. Series B, sales at 1938 prices.

TABLE II

AVERAGE TRADE PER EMPLOYEE—SIZE OF SOCIETY GROUPING

SOCIETY SIZE GROUPING		1938 £	1939 £	1940 £	1941 £	1942 £	1943 £	1944 £	1945 £	1946 £	1947 £
Over 50,000 ... ... (10)	A	1,429	1,437	1,457	1,529	1,569	1,668	1,824	1,816	2,004	2,162
	B	*1,429*	*1,395*	*1,175*	*1,092*	*1,046*	*1,083*	*1,162*	*1,128*	*1,215*	*1,169*
20,001 to 50,000 ... (13)	A	1,459	1,485	1,520	1,622	1,703	1,750	1,881	1,943	2,008	2,202
	B	*1,459*	*1,442*	*1,226*	*1,159*	*1,136*	*1,136*	*1,198*	*1,207*	*1,217*	*1,190*
10,001 to 20,000 ... (11)	A	1,435	1,489	1,547	1,653	1,778	1,867	2,009	1,951	2,186	2,347
	B	*1,435*	*1,446*	*1,248*	*1,181*	*1,185*	*1,212*	*1,279*	*1,212*	*1,325*	*1,269*
5,001 to 10,000 ... (12)	A	1,572	1,551	1,549	1,677	1,784	1,956	2,006	2,107	2,280	2,374
	B	*1,572*	*1,506*	*1,249*	*1,198*	*1,189*	*1,270*	*1,278*	*1,309*	*1,382*	*1,283*
Under 5,000 ... ... (11)	A	1,913	1,809	1,750	1,797	1,792	1,919	1,947	1,942	2,169	2,252
	B	*1,913*	*1,756*	*1,411*	*1,284*	*1,195*	*1,246*	*1,240*	*1,206*	*1,315*	*1,218*
All Groupings ... (57)	A	1,453	1,472	1,497	1,585	1,651	1,742	1,867	1,889	2,047	2,212
	B	*1,453*	*1,429*	*1,207*	*1,132*	*1,110*	*1,131*	*1,189*	*1,173*	*1,241*	*1,195*

TABLE III

AVERAGE TRADE PER EMPLOYEE—DEPARTMENTAL

DEPARTMENT		1938 £	1939 £	1940 £	1941 £	1942 £	1943 £	1944 £	1945 £	1946 £	1947 £
FOODSTUFFS ... (57)	A	1,446	1,458	1,446	1,506	1,565	1,690	1,831	1,846	1,985	2,108
	B	*1,446*	*1,402*	*1,175*	*1,133*	*1,110*	*1,149*	*1,229*	*1,222*	*1,297*	*1,191*
DRYGOODS ... (57)	A	1,440	1,473	1,653	1,935	2,054	1,940	1,996	2,038	2,352	2,757
	B	*1,440*	*1,339*	*1,253*	*1,166*	*1,098*	*1,060*	*1,079*	*1,067*	*1,231*	*1,392*
COAL ... ... (52)	A	1,589	1,685	1,825	1,862	1,980	2,092	2,138	2,206	2,214	2,396
	B	*1,589*	*1,685*	*1,659*	*1,564*	*1,584*	*1,585*	*1,485*	*1,433*	*1,384*	*1,435*
TOTAL—Above Depts. plus Pharmacy. ... (57)	A	1,453	1,472	1,497	1,585	1,651	1,742	1,867	1,889	2,047	2,212
	B	*1,453*	*1,429*	*1,207*	*1,132*	*1,110*	*1,131*	*1,189*	*1,173*	*1,241*	*1,195*

Internal Migration in Victorian England

I

There are few better quarries for the theory of economic development than Victorian England. Under the influence of a few compelling forces, operating steadily over the greater part of a century, society was gradually transformed in scale and structure, in custom and belief, in the work that had to be done and the livelihood that the work afforded. The balance was altered, for example, between town and country, industry and agriculture, home and overseas investment, births and deaths. Railways were built, towns grew, trade expanded; and these things happened, not as isolated events, but each in association with the others as part of a common response to persistent pressures: as continuous and inter-connected adjustments, free from any revolutionary break, to the disturbing forces of technical change, the opening up of new countries, the accumulation of capital, and so on.

Such a process of adjustment can be studied from many angles. It can be traced, but only partly traced, in the statistics with which the period, unlike earlier periods, abounds: in the curves of growth that rocket upwards one after another until the Victorian Age, seen graphically, begins to look like a fireworks display. These curves should not be allowed to conceal but should rather illumine the other non-measurable adjustments, in outlook and institutions, that went on simultaneously.

Yet the statistics of Victorian England, for all their fascination and all their abundance, have not been turned to the service of economic dynamics at all adequately. This is true, for example, of the statistics of the labour market whether in terms of mobility between occupations and industries or in terms of migration from place to place. There is no study of the broad pattern of change over the period, or of the parameters of change within it. The following pages are intended as a contribution to such a study. They relate to

internal migration—to those marginal shifts in population in which the forces making for a redistribution of population can be detected and measured.

II

Estimates of internal migration over ten-yearly intervals can be arrived at from the Census returns of population and the returns of births and deaths in each of the registration districts in England and Wales. By setting the actual increase in population against the excess of births over deaths, it is possible to calculate without much difficulty the balance of gain or loss by migration in each decade for all registration districts. The only difficulties are that the registration of births before 1875 was incomplete to an extent not known with accuracy; and that the boundaries of the registration districts were changed from time to time. Some new registration districts were created and some old ones disappeared: for example, the 623 registration districts that existed in 1850 had increased to 630 in 1891, and to 634 in 1911.

The registration districts can be grouped together into towns, coalfields, and rural residues, so as to reduce the total to 160, and the towns can then be classified as "Large," "Residential," "Old," "Industrial," "Textile," and "Military." The grouping adopted here is roughly the same as that evolved by Mr. T. A. Welton in his "England's Recent Progress" after something like 50 years' work on population statistics. The large towns are taken to include an area on the periphery that had not been built up in 1841, and which was beginning to be insufficient for urban expansion in 1911. London, for example, stretches from Barnet and Edmonton in the north to Croydon in the south, and from Romford and Dartford in the east to Chertsey in the west. Similarly, outlying suburbs are included in Manchester, Liverpool and the other big Northern towns. The main change from Welton's classification is the division of the country into North and South, the dividing line being drawn roughly between the Severn and the Humber. This division leaves all the major industrial and mining areas (apart from London) in the North. Welton's

classification of large towns includes Bristol, but as this leaves only two large towns in the South, one London and the other Bristol, it has seemed preferable to classify Bristol with old towns in the South so as to isolate the growth of London and facilitate comparison with eight large Northern towns.

This grouping (the details are given in Table I) may seem a rather arbitrary one from the point of view of trends in population and migration. The older towns, for example, have little in common but their age: Coventry and Northampton might more suitably be classed with Wolverhampton and Kettering than with Maidstone and Worcester. There is no sharp line of division between "old" and "residential," between "military" and "residential," or between any of these groups and "industrial." In the "rural residues" there are towns of some size like Grantham, Llanelly and Shrewsbury as well as villages and rural areas. Yet Welton's classification, which was devised for very different purposes, is by no means inappropriate to an analysis of general trends; *any* classification of towns by industrial affiliation would be extremely difficult and might yield results no more instructive.

The statistics in the tables for the two decades 1881-1901 are calculated from Welton's book and can be taken to be completely accurate, but as we go forward from 1901 and backward from 1881, changes in the boundaries of registration districts diminish the accuracy of the calculations. These changes are not of such an order of magnitude, however, as to upset the conclusions drawn below. They are rarely large, and large changes can generally be taken into special account. Two such changes, for example, are associated with the growth of Barrow and Middlesborough, and tentative calculations have been made for these two towns.

The calculations cannot unfortunately be continued up to 1931. Since 1911, returns of births and deaths have ceased to be made for the old registration districts, which have been superseded by urban and rural districts. It is not possible, therefore, to compare post-war and pre-war experience on the basis of the statistics given here.

The statistics do not refer to the total volume of movement between districts, but only to the balance of movement. This is important for two reasons. First, there is generally a surprising amount of migration into areas which, on balance, are losing population. Especially if a district lies, so to speak, between areas of high and low potential, the current of migration will bring to it migrants from the area of low potential to set against the still larger outflow from it to the area of high potential. Secondly, each district is far from homogeneous. In the towns, there is a centrifugal thrust of population to the suburbs from the centre, so that one part of the town gains while another loses. In the colliery districts there is often a displacement of population from one part of the coalfield to another. In districts like Burnley, which include several different towns (*e.g.* Nelson, Colne and Padiham) and a rural fringe (Pendle), there may be a large amount of internal movement, which, if the boundaries of the district were redrawn, would automatically increase the total balance of movement.

III

Table II summarises the changes in migration from one decade to another. The steady drift from the countryside to the towns was unbroken, both in the north and in the south, from the forties to the seventies. In the eighties this movement was checked, especially in the north, by heavy emigration ; in the following decade the drift to the towns was resumed on its former scale as emigration fell off ; but after the turn of the century town-building received a second check and this time it seems to have been the towns which supplied most of the emigrants.

Migration to the towns was at its peak in the forties when the inflow of Irish immigrants supplemented the movement from the English countryside and may, indeed, have been on a comparable scale. London, Liverpool and Manchester grew particularly rapidly, the two last-named gaining more by migration than ever before or since. The textile towns also showed heavy net gains in comparison with the following decades.

Irish immigration died away after 1851 and the inflow to the towns fell slightly. For the next thirty years, the pattern of internal migration was extraordinarily stable. Movement to the towns remained high, with a rather faint upward tendency. The fortunes of individual towns, of course, varied greatly : some, like the textile and most of the northern towns, shared the general experience ; others, like the military towns in the south, were less and less successful in attracting migrants from one decade to the next. Birmingham's peak in net immigration came in the fifties ; for Leicester, Hull and Nottingham, it came in the seventies. But these variations were relatively unimportant : the outstanding conclusion from Table II is that up to 1881 the movements of population were along channels that seemed fixed and deep, and that it was not until the eighties that they overflowed into unfamiliar courses.

The change in the eighties fell with particular vehemence on the northern towns. From gaining over 300,000 by migration in the seventies, they lost nearly 60,000 in the eighties. The transformation can be traced in all but one (Leeds) of the large towns in the north, and in each of the sub-groups of northern towns, rather faintly in the residential, but very obviously in the textile and industrial. The southern towns, apart from London, show no such transformation, and most of the sub-groups, indeed, attracted more migrants (or lost fewer) in the eighties than in the seventies. Some explanation can be offered from the particular circumstances of individual towns like Tilbury and Swindon. But the contrast is too great to be explained away so easily. The most obvious hypothesis—that the rural residues adjoining the northern towns lost less of their population than in the seventies while migration from the rural residues in the south was greater—proves to be the reverse of the truth. We can only suppose that the north took most of the shock of the great wave of emigration in the eighties. For the north of England as a whole, a net gain by migration of 130,000 in the seventies changed to a net loss of 300,000 in the eighties ; in the south there was only a minor difference in the net loss of population

between one decade and the other. Naturally this does not mean that all the extra emigrants came from the north of England : those who, in the previous decade, would have moved in from the south of England or from Ireland presumably emigrated instead ; there was some continental immigration, mostly to London ; and there may also, to judge from the growth of the residential towns, have been some disposition on the part of returning emigrants to settle in the south rather than in the north.

The experience of the following years confirmed the tilt in the geographical balance in favour of the south. In the nineties, when emigration was temporarily checked, the north continued to lose population while the outflow from the south almost ceased. This was in contrast to the long period in the middle of the century when the north was gaining, and the south losing, population. The southern towns now took much the larger share of the migrants from the rural residues. The increase in migration into London was not large ; but the military and residential towns in the south showed a conspicuous gain by migration.

In the nineties there was little emigration. But after 1900—or perhaps one ought to say, after 1906—emigration recommenced. For the first time the towns now lost through an *outflow* of population, although not so heavily that their growth was arrested. London lost as many of her citizens by migration as she had acquired by migration in the nineties ;

In the nineties there was little emigration. But after 1900 emigration recommenced. For the first time the towns now lost through an *outflow* of population, although not so heavily that their growth was arrested. London lost as many of her citizens by migration as she had acquired by migration in the nineties ; her population continued to grow, but at a rate 30 per cent. lower than before. Of the large northern towns, only Manchester and Hull showed a net gain by migration. Nearly every group of towns showed a diminished increase by migration or an actual loss : the principal exception was the group of south coast resorts which had been growing at an accelerating pace ever since the sixties, largely by migration.

The colliery districts, defined within wide boundaries so as to include a population that amounted to 1911 to over 5 million inhabitants, did not share the flunctuations of the towns. The net inward movement into the group hardly varied at all from an average of about 100,000 per decade. But individual coalfields showed no such constancy of growth. In South Wales, for example, there was a large, consistent, but unsteady, gain by migration throughout the period ; in Durham (which includes Newcastle, Sunderland, South Shields, and other towns) there was a net gain in every decade but the last ; but in Wrexham, Cannock and Ashby-de-la-Zouche there was an almost consistent loss. The Lancashire coalfield provided evidence of increasing costs of operation in the gradual transition from a large net inflow in the seventies into an even larger net outflow after 1900. The Yorkshire and Derbyshire coalfields, as one might expect, showed exactly the opposite trend.

IV

It is unnecessary to comment in detail on the fluctuations in each group of towns ; it is also extremely difficult, because all the working sheets were stolen in transit during the war. A full analysis, including a study of migration by age and sex, will be found in Welton's : " England's Recent Progress," which covers the eighties and nineties and can be supplemented by a subsequent article for the following decade. (*Journal of the Royal Statistical Society*, 1913, p. 304).

The most noticeable feature of the migration into London is the net loss in the final decade—a loss that is partly to be accounted for by the improvement in transport facilities and the consequent growth of outlying suburbs and dormitory towns. In the previous sixty years, London enjoyed an uninterrupted gain of population, large enough, until the nineties, to dominate urban development in the south. In the nineties, the other southern towns attracted almost as many migrants as London ; and in the following decade they continued to show net gains while London was losing migrants (although continuing to grow).

The pattern for the large northern towns closely resembles that for London except that the check in the eighties was more marked and in the years after 1901 less marked. Some of the towns attracted migrants at a fairly steady rate throughout (Manchester and Hull, for example). Few diverged much from the general pattern, although the peak in net immigration occurred in different decades for different towns.

The textile towns have not, unfortunately, been analysed so as to separate cotton and wool, spinning and weaving, men and women. The general outline is of a heavy net gain in the forties, a small net loss in the fifties, increasing net immigration in the sixties and seventies, giving way to an increasing outflow thereafter. This reflects the diminishing importance of textiles in the national economy (the actual growth of population in the textile towns follows the same trend) rather than the more general forces governing migration to the larger towns. The net inflow seems to have been predominantly of women. In the eighties, for example, there was a net gain of 17,000 women and a net loss of 13,000 men ; in the nineties the net loss of 40,000 consisted almost wholly of men. Not all the textile towns followed the general trend : when the tide of migrants began to turn in the eighties, Bolton, Burnley, Oldham and Stockport between them still showed a net gain of over 50,000 ; and in the nineties, of nearly 20,000.

For the northern industrial towns (including, for example, Middlesborough, Wolverhampton, the Potteries, Rotherham and railway centres such as Rugby, Crewe, and Doncaster), the pattern is not unlike that for the larger towns, with a steep downward trend from initial gains to later heavy losses. The fifties were the period of maximum inflow and the eighties of maximum outflow. The southern industrial towns include four small Cornish towns as well as Southampton, Swindon, Luton, Tilbury and others. The constant outflow in the earlier decades came mainly from the Cornish towns ; the gains after 1891 were due largely to the growth of Southampton.

The fluctuations in the remaining groups were erratic, sometimes in conformity with the general pattern, sometimes entirely contrary to it. The old towns in the south, except

in the fifties, followed the pattern of London closely; the military towns did not. The residential towns in the north kept in step with the larger towns, but on a rising trend; but the residential towns in the south showed nothing of the general see-saw in migration after 1881. The inflow into these towns mounted with the growth of the south coast resorts, some of which, like Hastings, Eastbourne, Bournemouth and Poole, gained more migrants in the eighties than in the nineties, unlike almost every other town in England.

V

In the twentieth century, internal migration is chiefly between one industrial area and another; in the nineteenth century it was chiefly between the countryside and the towns. This meant that the centres of outflow—the depressed areas of the period—were in close juxtaposition with the centres of attraction. The towns swelling with the growth of a railway system and of urban industry, drew on the natural increase of their rural hinterland. At the same time, centres of attraction in America and the Colonies competed for migrants, and as this competition was intermittent, urban expansion and colonisation tended to alternate with one another in successive decades.

The most striking features of the rural outflow (as will be seen from Table III) are its comparative steadiness and its magnitude. In the South, the outflow at the beginning of the century appears to have been very small, but it rose rapidly to a peak in the fifties, was checked in the sixties, reached a new peak in the seventies, and then began to fall steadily until in the final decade after 1900 a sharp fall brought it below the level of any previous decade since the thirties. In the North, the steadiness of the outflow is even more remarkable. There was a gradual rise to a peak in the eighties, and a rather more rapid fall in the two following decades.

Both in North and South the rise and fall in the movement of population from the rural areas had little to do with agricultural prosperity and depression. The crescendo between the thirties and the seventies coincided, not with the worst years of agricultural depression, but with the so-called:

"Golden Age of English Farming." A second period of agricultural prosperity after 1900 coincided with a spectacular falling-off in rural depopulation. In the intervening years of prolonged depression, the outflow reached its peak and began to subside. Depression and prosperity, therefore, were each compatible with an increasing or diminishing outflow.

The main cause of rural depopulation was the building of railways and the consequent revolution in transport. Railway-building provided employment, and stimulated employment : it put the towns in need of more metal workers, engineers, and so on. Railway-building also increased mobility, both by taking men long distances to assist in the work of construction, and by making journeys to town easier and cheaper. It provided a vent for the surplus population of the countryside. Finally the railways, by improving communications, immensely reinforced the competitive power of large-scale, urban enterprise and brought about the displacement of rural crafts and small country industries to the towns. Simultaneously with these changes, the chief rural industry, farming, was adapting itself to foreign competition and rising wages by economising labour, partly through mechanisation and partly through conversion of arable to pasture. The displaced labour in the countryside, ousted by urban or American competition, found a cure for unemployment by moving to the towns and to America.

The subsidence of the outflow after 1890 appears to have been due mainly to the fall in fertility that followed inevitably on the heavy migration of previous decades. In a single decade, as many as 40 per cent. of the young men aged 20-30 might migrate from some rural districts, and the final loss from one generation might come to nearly 2 out of 3. In the South-Western rural districts, total births fell by 40 per cent. in 40 years although the fall in population was no more than 13 per cent. Fewer potential migrants were being born, because the parents who might have reared them had already migrated.

Other forces co-operated to check the outflow—the revival in British agriculture after 1900, the suburbanisation of the countryside, the exhaustion of work suitable for transfer

to the towns. It is probable, too, that the law of diminishing returns was operating to protect what was left of rural industry just as it was operating to protect agriculture. Changes in the structure of agriculture were temporarily arrested because the limits of known technique had been reached.

One feature of rural depopulation merits special attention. Table III shows clearly that the rural districts in the North did not react from decade to decade in the same way as rural districts in the South. Especially in the later decades, the rural districts fall into two separate groups, coinciding with the division into North and South, and exhibiting distinct patterns of variation. In the North the pattern is one of steadily increasing emigration up to 1890 with a temporary check in the seventies ; in the South there is a rise up to 1880 with a temporary check in the sixties. These patterns are characteristic not only of the totals for North and South but to a surprising extent of constituent counties also. It is only in some of the smaller northern counties that there is any marked divergence from the general movement. No satisfactory explanation of this difference between northern and southern rural districts has so far suggested itself.

VI

In spite of the heavy outflow from the countryside—a net outflow equal to nearly three-quarters of the starting population and to one-third of the total births over the period—there was no depopulation in the strict sense : in 1911 the population of the rural areas was higher, both in the north and in the south, than in 1841. In one decade only—the eighties—was there an actual reduction in the population of the group as a whole. Some individual rural areas, especially those in the south, suffered a heavier loss and an absolute decline in population. But on the average the rural districts marked time while the population of other areas was increasing rapidly. In 1841 the population of rural districts formed 39 per cent. of the total for the country ; by 1911 they formed no more than 19 per cent. (*i.e.* less than half the proportion seventy years previously).

If the rural areas grew least, the colliery districts grew most. In seventy years their population multiplied fourfold. This rapid increase was due in only limited measure to migration. Out of a total increase of just over 4 million, five-sixths was due to the excess of births over deaths and only the remaining one-sixth to the gain by migration. The large northern towns, with a population rather greater in 1841 and a net gain by migration fully one-third larger, nevertheless had a smaller population than the colliery districts in 1911 because of their lower rate of natural increase. The difference in natural increase existed throughout : in the earlier decades, the colliery districts more than made up in lower mortality rates for their comparatively low fertility ; later, the advantage in mortality rates was reinforced when fertility in the towns began to decline.

The large towns owed more of their growth to migration than the colliery districts. Over the full stretch of seventy years, migration added about one-third as much to the population of London and the large Northern towns as the excess of births over deaths. But this understates the importance of migration in the Victorian Age. If the final decade after 1901 is omitted, the ratio of net gain by migration to natural increase rises to one-half. Moreover, as is well known, short distance migration greatly preponderates over long distance migration ; the wide boundaries drawn round London and the other large towns, therefore, may exclude, in the earlier years, a large centripetal movement from the rural periphery to the urban core.

Although most other towns of any size sucked in migrants in the early stages of growth, the aggregates for each group reveal no consistent pressure of migration, except towards the residential and military towns. The residential towns, with a low natural increase, were more dependent for their growth on the attraction of migrants than any other group. The northern residential towns, for example, added 70 per cent. to their starting population by migration alone ; even so, however, they grew no more rapidly than the average for other groups of towns. The textile towns, after attracting immigrants in

large numbers for many years, parted in the last two decades with half as many as they had gained, and the influence of migration in their growth is disguised in the final totals. Similarly with the industrial and old towns : the heavy immigration that promoted the expansion of towns like Barrow and Coventry was counter-balanced by a movement from other towns in the same group in a later phase of growth.

The outcome of the migrations of those years, together with differences in the rate of natural increase, was a pronounced change in the distribution of population. The rural residues sank from 38·8 to 19·3 per cent. ; the colliery districts rose from 8·3 to 14·8 per cent. ; the towns from 52·9 to 66·0 per cent. The north of England triumphed over the south : mainly by superior fertility (and not, as we used to be taught, by attracting migrants). In seventy years, the north gained three more inhabitants for every two added to the population of the south.

VII

Although designed to illuminate migration, these statistics throw an incidental light also on the balance of births and deaths in the Victorian era.[1] They do not reveal causal connections (such as that between migration and fertility—a subject on which Mr. Welton has written at some length) ; and they do not penetrate to those fascinating by-ways of demography in which births and deaths are grouped by sex and age (by-ways along which Mr. Welton would have been only too happy to conduct us). But they do enable us to catch a glimpse of some general trends in the second half of the century.

The curve of births mounted steadily until the seventies and from then on at a diminishing rate until the peak in 1903. The curve of deaths rose fastest in the sixties and in the following decade was not far short of the eventual peak reached in the nineties. The outcome of these similar, but not altogether congruent, fluctuations was a natural increase of population that was rather less in the sixties and a good deal more in the seventies than accorded with the trend ; a fall in the natural increase in the nineties ; and a surprisingly sharp rise thereafter

[1]The tables upon which this section is based have not been reproduced.

to figures never since approached. These fluctuations should be interpreted in the light of the very high proportion of deaths occurring in infancy—over 40 per cent. of deaths in the mid-Victorian period were of children under 5. This alone tended to produce sympathetic changes in births and deaths. When the two got out of phase it was because of a sudden drop in infant mortality (as after 1900), or (as in the seventies) because of improvements in public health, slum clearance, and the growth to maturity of a generation born in times more prosperous than those that followed the Napoleonic wars.

The first group of districts to show a declining number of births was that of the southern rural residues. This reflected heavy emigration in previous decades ; and the really astonishing thing is that births should have continued to rise up to the sixties in spite of the loss of perhaps half of each generation. In the northern rural areas, the peak in births came later, in the seventies. It is also noticeable how much steeper was the fall in births in the southern residues : at the end of the period, births in the northern rural areas were almost as large as at the beginning, while in the southern areas they were 25 per cent. less ; less than half the difference was due to the greater growth of population in the north.

The changes in rural births and deaths can be analysed in terms of the average birth and death rates in each decade. In both north and south the peak in the birth-rate came in the sixties and by that time fertility (measured by this crude index) had risen in the north slightly above the south. The fall in the birth-rate was not perceptible until the eighties, but by the beginning of this century the birth-rate was nearly 30 per cent. down on the peak. Except in the earliest years (when the figures of births are not altogether reliable) the birth-rate in the rural areas, in spite of the drain of young migrants, remained higher than in the residential towns but below the level of the other areas. The death-rate showed a similar trend : it was steady or actually rising in the mid-Victorian decades and showed no large reduction until the eighties ; and the south, which at first had the higher rate, overtook the north in the eighties and ended with a perceptibly lower death-rate.

Throughout the entire period, the rural areas had the lowest death-rates in the country with the exception of the "residential" towns in the south, which had death-rates close to those for the southern rural residues.

The textile towns followed closely behind the rural areas. Starting with the highest birth-rate of any group, they ended with one of the lowest, the fall in the last three decades being no less than 36 per cent. The death-rate, which was also very high initially, rose to a peak in the seventies, and thereafter fell to about the average for the country. Among the larger towns, London had a much lower birth and death-rate than the towns in the north ; in both groups the sixties emerge as a period of particularly high rates, both for births and deaths, with the seventies ushering in lower death-rates and the eighties lower birth-rates. The subsequent fall in the death-rate was much greater than the fall in the birth-rate : so much so that by the end of the period the birth-rate was nearly twice the death-rate—a ratio well above that for other areas at that or any earlier time.

The colliery districts depended for their growth on a high natural increase and, in fact, on a high birth-rate. At the start, the birth-rate does not appear to have been much above the average, but by the seventies it had climbed to 42 per cent. above the average, and even the reaction to 33 per cent. in the first decade of the century left a large margin over the next highest group, the large northern towns. The death-rate of the colliery districts varied less than anywhere else : it started not much above the average for the "residential" districts, changed only insignificantly when the birth-rate increased and fell surprisingly little after the general improvement in public health from the eighties onwards. It is striking to find that the death-rate for the colliery districts moved from one-sixth *below* the average for the large towns in the north at the beginning of the period to one-eighth *above* at the end. Yet for all this high death-rate, the colliery districts still had the highest rate of natural increase—as they had had ever since the fifties.

London. A. K. Cairncross

TABLE I.

Registration Districts in England and Wales Grouped into Towns (excluding colliery districts and rural residues).

Large Towns :—

1 Southern
- London

8 Northern
- Birmingham
- Hull
- Leeds
- Leicester
- Liverpool
- Manchester
- Nottingham
- Sheffield

Textile Towns :—

22 Northern
- Ashton-under-Lyme
- Blackburn
- Bolton
- Bradford
- Burnley
- Bury
- Dewsbury
- Glossop
- Halifax
- Haslingden
- Huddersfield
- Keighley
- Kidderminster
- Leek
- Macclesfield
- Oldham
- Preston
- Rochdale
- Saddleworth
- Stockport
- Todmorden
- Wharfedale

Industrial Towns :—

14 Northern
- Barrow
- Burton
- Cockermouth
- Crewe
- Doncaster
- Middlesborough
- Millam
- Potteries
- Rotherham
- Rugby
- Stafford
- Walsall
- Whitehaven
- Wolverhampton

Industrial Towns *—continued*

11 Southern
- Falmouth
- Grimsby
- Helston
- Kettering
- Luton
- Penzance
- Redruth
- Southampton
- Swindon
- Tilbury
- Wellingborough

Old Towns :—

7 Northern
- Carlisle
- Chester
- Coventry
- Derby
- Northampton
- Wakefield
- York

13 Southern
- Bristol
- Cambridge
- Exeter
- Gloucester
- Ipswich
- King's Lynn
- Lincoln
- Maidstone
- Norwich
- Oxford
- Reading
- Worcester
- Yarmouth

Residential Towns :—

9 Northern
- Blackpool
- Harrogate
- Leamington
- Llandudno
- Malvern
- Morecambe
- Rhyl
- Scarborough
- Southport

Residential Towns *—continued*

26 Southern
- Bath
- Bedford
- Bournemouth
- Brentwood
- Brighton
- Cheltenham
- Clacton
- Cromer
- Eastbourne
- Easthampstead
- Guildford
- Hastings
- Herne Bay
- Isle of Wight
- Maidenhead
- Poole
- Reigate
- Southend
- Staines
- Thanet
- Torquay
- Tunbridge
- Watford
- Weston-Super-Mare
- Worthing
- Uxbridge

Military Towns :—

16 Southern
- Aldershot
- Canterbury
- Chatham
- Colchester
- Deal
- Dover
- Farnham
- Folkestone
- Godstone
- Plymouth
- Portsmouth
- Salisbury
- Sheerness
- St. Germans
- Weymouth
- Windsor

TABLE II.

Gain (+) or loss (—) by migration from Towns, Rural Residues and Colliery Districts, 1841–1911.

	1841–51	1851–61	1861–71	1871–81	1881–91	1891–00	1901–10	Total
1. TOWNS :								
(*a*) **Large.**								
London	+273,649	+244,473	+261,595	+307,260	+168,945	+226,476	—231,887	+1,250,511
8 Northern	+249,334	+195,522	+185,751	+187,800	+ 21,381	+143,598	— 90,049	+ 893,337
(*b*) **Textile.**								
22 Northern	+ 57,944	— 4,179	+ 31,915	+ 92,856	+ 3,734	— 40,612	— 51,725	+ 89,933
(*c*) **Industrial.**								
14 Northern	+ 28,494	+ 34,076	+ 11,527	— 5,997	— 88,601	— 51,424	— 81,069	— 152,994
11 Southern	— 7,230	— 4,592	— 18,668	— 11,362	— 5,916	+ 25,377	+ 6,712	— 15,679
(*d*) **Old.**								
7 Northern	+ 17,503	— 435	+ 3,515	+ 6,793	— 17,109	+ 311	+ 5,366	+ 15,944
13 Southern	+ 19,605	— 17,738	+ 19,327	+ 14,340	— 24,308	+ 1,461	— 34,691	— 22,004
(*e*) **Residential.**								
9 Northern	— 5,409	+ 4,939	+ 11,159	+ 29,752	+ 21,739	+ 59,675	+ 18,375	+ 140,230
26 Southern	+ 2,053	— 2,142	+ 42,595	+ 27,247	+ 44,773	+ 83,441	+129,395	+ 327,362
(*f*) **Military.**								
16 Southern	+ 24,077	+ 66,862	— 16,101	— 44,009	+ 13,122	+ 72,519	+ 8,478	+ 124,948
Northern Towns	+347,866	+229,933	+243,867	+311,204	— 58,856	—111,548	—199,102	+ 986,450
Southern Towns	+312,154	+286,863	+288,748	+293,476	+196,616	+409,274	—121,993	+1,665,138
	+660,020	+516,789	+532,615	+604,680	+137,760	+520,822	—321,095	+2,651,588
2. COLLIERY DISTRICTS :								
9 Northern	+ 82,287	+103,467	+ 90,860	+ 84,474	+ 90,303	85,158+	+113,999	+ 650,548
3. RURAL RESIDUES :								
12 Northern	—158,770	—229,368	—253,510	—263,029	—349,124	—237,423	—152,522	—1,643,770
12 Southern	—284,400	—513,205	—429,521	—574,423	—496,320	—423,017	—142,380	—2,863,266
	—443,170	—742,573	—683,031	—837,452	—845,444	—660,440	—294,902	—4,507,036
Total (Net Emigration) :—								
North of England ...	+271,383	+104,022	+ 81,127	+132,649	—317,677	— 40,717	—237,625	— 6,748
South of England	+ 27,754	—226,342	—140,773	—280,947	—299,704	— 13,743	—264,373	—1,198,128
	+294,121	—122,320	— 59,556	—148,298	—617,381	— 54,460	—501,998	—1,209,892

TABLE III.

Losses by migration from Rural Residues of England and Wales, 1841–1910.

	1841–50	1851–60	1861–70	1871–80	1881–90	1891–00	1901–10
1. Gloucester and Somerset ...	45,675	61,558	54,229	75,782	65,692	58,009	30,702
2. Hants. and Berks.	18,737	36,043	27,984	37,838	33,550	33,414	+9,905
3. Herts. and Essex	15,286	39,338	31,336	54,201	39,418	32,443	485
4. Bucks. and Oxford	19,543	30,351	29,340	43,687	29,524	30,994	5,229
5. Kent and Surrey	13,836	15,315	12,860	18,601	26,173	20,907	17,962
6. Sussex	19,904	22,893	11,687	17,291	22,913	12,088	+2,179
	132,891	205,498	167,436	247,400	217,270	187,854	42,294
7. Wilts. and Dorset	33,583	45,579	37,897	55,194	43,778	40,818	16,316
8. Devon	30,162	42,668	35,771	42,724	31,046	30,035	13,667
9. Cornwall	15,930	24,801	27,377	33,440	22,992	13,995	5,367
	79,675	113,048	101,045	131,358	97,816	84,848	35,350
10. Suffolk, Norfolk	42,770	83,208	70,112	77,656	70,495	71,812	33,601
11. Lincs., Rutland	11,668	50,932	40,754	43,496	54,687	36,814	9,730
12. Northants, Cambs., Hunts., Bedford	17,306	60,432	50,174	74,513	56,052	41,689	20,894
	71,744	194,572	161,040	195,665	181,234	150,315	64,225
13. Hereford, Salop	16,578	15,061	37,203	51,201	56,192	34,220	27,782
14. Carmarthen, Pemb., Cardig.	20,590	24,884	32,217	26,158	35,180	22,949	+1,445
15. Merioneth, Montg., Radnor	15,564	13,004	8,053	16,423	29,812	12,795	19,653
16. Monmouth, Brecon. ...	2,787	8,059	8,225	13,104	13,016	9,401	6,291
17. Carnarvon, Anglesey ...	1,100	10,275	6,633	3,398	15,784	5,835	11,155
18. Denbigh and Flint.	4,290	7,100	3,839	5,563	12,295	6,433	2,255
	60,909	78,383	96,170	115,847	162,279	91,633	65,691
19. Cumberland, Westmorland	9,926	13,346	13,886	18,548	16,875	18,117	12,280
20. Durham, Northumberland...	5,670	21,284	20,427	19,825	22,614	12,410	12,128
21. Lancs. and Cheshire ...	7,755	16,058	11,320	9,552	17,434	29,159	15,804
22. Stafford, Warwick, Worcs.	14,436	18,127	20,108	22,054	35,282	24,834	14,509
23. Leics., Notts., Derby ...	25,904	34,319	44,954	28,178	29,417	19,570	14,187
24. Yorks.	34,170	47,851	46,645	49,025	65,223	41,700	17,923
	97,861	150,985	157,340	147,182	186,845	145,790	86,831
Total :—	443,170	742,573	683,031	837,452	845,444	660,440	294,641

TABLE IV.

The Growth of Population in England and Wales, 1841–1911.

	Population in		Natural Increase	Net Gain (+) or Loss (—) by Migration	Ratio of gain or loss to natural Increase	Population in 1911 as proportion of population in 1841
1. TOWNS :	**1841**	**1911**	**1841–1911**	**1841–1911**	%	%
(*a*) **Large.**						
London	2,261,525	7,314,738	3,802,252	+1,250,511	+32·9	323·7
8 Northern	1,551,126	5,191,768	2,747,306	+ 893,337	+32·5	334·7
(*b*) **Textile.**						
22 Northern	1,386,670	3,182,382	1,705,779	+ 89,933	+ 5·3	229·5
(*c*) **Industrial.**						
14 Northern	603,214	1,812,219	1,361,999	— 152,994	—11·2	300·4
11 Southern	296,009	708,693	428,363	— 15,679	— 3·7	239·4
(*d*) **Old.**						
7 Northern	289,819	648,769	343,006	+ 15,944	+ 4·6	223·9
13 Southern	664,682	1,375,651	732,973	— 22,004	— 3·0	207·0
(*e*) **Residential.**						
9 Northern	206,897	559,022	211,895	+ 140,230	+66·2	270·2
26 Southern	692,185	1,770,030	750,483	+ 327,362	+43·6	255·7
(*f*) **Military.**						
16 Southern	470,821	1,212,413	616,644	+ 124,948	+20·3	257·5
Northern Towns	4,037,726	11,394,161	6,369,985	+ 986,450	+15·5	282·2
Southern Towns	4,385,222	12,381,525	6,331,165	+1,665,138	+26·3	282·3
	8,422,948	23,775,686	12,701,150	+2,651,588	+20·9	282·3
2. COLLIERY DISTRICTS :						
9 Northern	1,320,342	5,334,002	3,363,112	+ 650,548	+19·3	404·0
3. RURAL RESIDUES :						
12 Northern	2,425,614	2,875,113	2,093,257	—1,643,770	—78·6	118·5
12 Southern	3,740,228	4,085,691	3,208,729	—2,863,266	—89·2	109·2
	6,165,842	6,960,804	5,301,986	—4,507,036	—85·0	112·9
Total :						
North of England	7,783,682	19,602,876	11,825,942	— 6,748	— 0·1	251·8
South of England	8,125,450	16,467,616	9,540,294	—1,198,128	—12·6	202·7
	15,914,148 [1]	36,070,492	21,366,236	—1,209,892	— 5·7	226·6

[1] Including 5,106 persons travelling by train on the night of the Census of 1841.

TABLE V.

Net Gain (+) or Loss (—) by Migration to or from 8 Large Towns.

	1841–50	1851–60	1861–70	1871–80	1881–90	1891–00	1901–10
Manchester	+ 73,033	+33,755	+35,453	+51,434	+17,258	+31,568	+ 4,671
Liverpool	+107,184	+68,703	+56,907	+49,017	—15,057	+22,788	—11,754
Birmingham	+ 37,791	+46,861	+14,996	+19,785	—10,248	+42,588	—23,484
Leeds	+ 4,336	+11,090	+20,734	+ 6,763	+15,489	+13,766	—29,489
Sheffield	+ 8,798	+26,101	+26,647	+ 4,389	+ 2,170	+15,337	—18,996
Leicester	+ 372	— 5,345	+12,585	+17,578	+10,147	+ 9,948	—10,528
Hull	+ 14,460	+ 3,058	+13,328	+16,839	+ 7,156	+ 9,595	+ 4,041
Nottingham	+ 3,360	+11,299	+ 5,101	+21,995	— 5,534	— 1,992	— 4,510
Total :	+249,334	+195,522	+185,751	+187,800	+21,381	+143,598	—90,049

TABLE VI.

Net Gain (+) or Loss (—) by Migration to or from 9 Colliery Districts.

	1841–50	1851–60	1861–70	1871–80	1881–90	1891–00	1901–10
Durham group	+49,939	+63,393	+84,260	+31,635	+ 8,221	+23,386	—23,845
Glamorgan group	+52,076	+39,627	+11,033	+12,213	+87,225	+40,326	+129,295
Wigan group	+ 3,203	+ 9,038	+ 2,949	+15,679	+ 5,071	—12,639	—29,796
Chesterfield group	— 8,826	— 5,404	+ 122	+15,914	— 1,326	+22,233	+ 26,881
Barnsley group	— 6,649	+ 1,960	+ 2,197	+11,222	— 1,037	+ 5,717	+ 11,257
Wrexham	— 235	+ 2,661	— 1,984	— 1,907	— 1,122	— 618	— 2,875
Nuneaton	+ 438	— 3,602	— 7,327	— 1,996	+ 36	+ 7,682	+ 8,402
Cannock	— 820	— 271	+ 1,992	+ 5,744	— 3,293	— 1,285	— 2,837
Ashby-dela-Zouche	— 2,206	— 1,652	— 2,382	— 4,030	— 3,272	+ 356	— 2,483
Total :	+82,287	+103,467	+90,860	+84,474	+90,303	+85,158	+113,999

TABLE VII.
BIRTH AND DEATH RATES IN ENGLAND AND WALES. 1841–1911.

	1841–51		1851–61		1861–71		1871–81		1881–91		1891–1901		1901–11	
	Birth Rate	Death Rate	Birth Rate	Death Rate	Birth Rate	Death Rate	Birth Rate	Death Rate	Birth Rate	Death Rate	Birth Rate	Death Rate	Birth Rate	Death Rate
1. **Towns :**														
Large.														
London ...	30·8	23·8	33·0	23·0	34·8	23·5	34·7	21·4	32·9	19·3	29·8	17·9	27·5	14·6
8 Northern	36·4	28·1	37·6	26·1	38·3	26·9	38·7	24·6	34·6	21·8	31·9	20·4	29·8	17·3
Textile.														
22 Northern	36·6	24·0	37·5	24·6	36·7	24·7	36·9	23·8	31·5	20·8	27·8	19·4	23·5	16·2
Residential.														
9 Northern	32·5	22·3	31·0	20·5	31·9	21·6	30·6	20·7	27·7	18·5	25·3	17·9	22·0	15·4
26 Southern	30·0	20·2	29·4	19·6	30·4	19·5	29·4	18·2	27·3	16·4	24·5	15·6	21·2	13·4
2. **Colliery Districts :**														
9 Northern	35·4	23·4	39·0	23·6	39·6	23·5	41·9	23·1	36·9	19·8	35·9	19·2	32·9	19·5
3. **Rural Residues :**														
12 Northern	29·4	19·3	31·0	19·7	32·5	20·1	32·0	19·4	29·5	17·5	27·6	17·1	24·5	14·6
12 Southern	31·5	19·7	32·1	19·7	32·3	19·2	31·3	18·2	29·3	16·7	26·0	15·8	22·7	13·4

A Shipyard from Within

When I told my friends, on leaving the army, that I wished to become a Welfare Officer, they insisted that I should first prepare myself by seeing the job from the angle of the worker at the bench. Accordingly, in the summer of 1948 I applied to a shipbuilding firm for a job, in the ordinary way, without indicating my purpose, and I was accepted.

I worked in a coppersmith's shop, the full complement of which consisted of 10 coppersmiths and 10 mates, under the supervision of a chargehand and a foreman coppersmith. As a 'mate' in the appropriate designation of 'general labourer, engineering,' I received the Trade Union rate of £4.7.0. per week, plus a travelling allowance of 3/4d. per week. A five day week is in operation throughout the shipbuilding industry, and our hours of work were from 7-30 a.m. to 5-30 p.m. daily, with one hour for dinner and an 'early finish' of 4-30 p.m. on Fridays. The practice in this particular yard is to work overtime rather than engage extra staff when there is much work on hand, consequently the regular hours were often exceeded. In fact when a ship is in the process of being 'stripped,' it is quite a common occurrence for employees to work throughout the night twice weekly.

In our shop all faulty steam-pipes from the ship in dock were replaced by new ones made by the coppersmiths. Copper tubing of the appropriate diameter is cut into the required lengths, packed with sand to avoid 'crinkling' under heat, and bent in the flame of an oxy-acetylene lamp to conform with the impressions of the desired tubing, set in steel wire. A 'mate's' duties in the main, consist of packing the tubes with sand, cooling off the red-hot tubing in the water tanks, and weighing the tubing, in addition to the duties common to 'mates' in every trade :—the time honoured tasks of making tea at the appropriate hours, placing the Shop's bets with the street bookmaker, and looking after 'the tools.'

The bounds of one's duties are clearly defined and any deviation from prescribed limits is soon a matter for the Shop

Steward's consideration. Under no circumstances must a 'mate' use any tool. He may not even use a hammer to tap a nail down. The handling of all tools in the normal course of work must be done by the coppersmiths, although the cleaning and general care of tools is entrusted to 'mates.' It is readily understandable that the fear of wage cutting, of 'scab labour,' and of unemployment, in the past has made the Trade Unions insist on the principle of each man to his own trade, but there is no doubt in my estimation that such restrictions as are imposed seriously hamper production. One of the 'mates' had been an instrument-maker in the R.A.F., and although a skilled engineer he was prohibited from even sawing a copper pipe in half because he had not served an apprenticeship to a trade. The high standard of craftmanship peculiar to British Industry must in no way be jeopardised and the flooding of a trade with unskilled workers would be a matter for deprecation, but it would appear that in these times of economic crisis, when the bogey of unemployment is virtually non-existent and maximum production is so vital, that some relaxation of the restrictions on the 'simple' tasks might be effected. If labourers were permitted to hammer in nails, to insert screws and to saw metal, simple tasks which do not encroach on the coppersmiths' special skill, production could be increased considerably.

To work with these men is a remarkable experience. There is a spirit of comradeship amongst them greater even than that I found in the Services in war-time. Fourteen of the employees, in fact all those over 30, had experienced hard times between the wars. Two had had 16 years' unemployment, 16 years of continuous unemployment, except for a few days employment as 'snow-dodgers' when the snow-fall in a particular winter was more severe than usual. Several had experienced idle periods of 12 years. I had to get to know these men if my survey was to be profitable, so I joined the Union, went with them to see their favourite soccer team, and to the 'local' on pay nights. For a month I became one of them.

Work in the shipbuilding industry, even in times of relative prosperity, has always tended to be of a casual nature. Workmen are employed for as long as a ship is being constructed, or for as long as a ship is being overhauled. An early completion of the job meant an early period of unemployment. Pre-war, when regular employment was so precious, a universal policy of 'go-slow' spontaneously developed, and this restriction of output continues to-day. " There's six months work on the ship and we'll be able to stretch it out to possibly nine months, so you don't need to worry about the sack for a good while," Willie told me, in his accustomed fatherly way, as soon as I commenced work. To Willie, a 72-year-old Scot who keeps working so that he can supplement his Old Age Pension and enjoy a glass of Scotch, the fact that a job was likely to last for almost a year was the best possible recommendation for it !

This fear of unemployment has not been erased from the mind of the shipyard worker, consequently the drag of 'go-slow' persists ; and unfortunately there is another vital factor tending towards the encouragement of restriction—the economic factor of low wages. To-day the coppersmith has a weekly wage of almost £7, and relatively his lot is not a bad one. The general labourer is only receiving an average of £4.10.0. per week, however, and to him living on a 'flat week' is a struggle. Overtime must be worked for a considerable period throughout the year if the family budget is to be balanced. Alec, an ex-N.F.S. section-leader rejected for the post-war force on eyesight grounds, could smoke 15 cigarettes a week providing he did not have a glass of beer. He smoked two a day with three on Sunday. These labourers have a budget that is worked out to the last penny. Family Allowances have been, and the National Health Service will be, a great boon to these men, but even so there is very little to spare. A policy of 'go-slow' persists throughout the day so that the men may work overtime during the evening if they wish. The remarkable feature about these restrictive and 'manufactured overtime' practices, to my mind, is that they do not constitute a move from the 'bottom.' They are directed by the yard foremen (who are on the staff with this particular firm).

In our shop the foreman had a most efficiently organised rota system whereby one half of the personnel was working while the other half was absent. "Tell me where you are going," he used to say, "just so I can let you know if the timekeeper comes round." If the timekeeper visited the workshop any absentees were working on the 'S.S. So-and-so.' If he visited the ship they were working in the workshop, or so he was informed. In point of fact, any visit of inspection was extremely rare and it was usually well advertised.

Afternoons or mornings taken off were spent in various ways. In sunny weather the dock wall was a favourite rendezvous. There was always keen competition to borrow one of the harbour-masters' telescopes and survey the hills in the distance. During inclement weather the cinema was popular, although some of the local cinemas have refused to admit patrons in overalls of late, much to the annoyance of the 'gang.' Les. used to spend 'an odd hour' on his allotment, 200 yards away. Some of the older men liked to sit and doze. If anyone had attempted to work for 8½ hours during a day, as I did once, they would have been an object for curiosity, if not for ostracism.

Naturally the question immediately arises as to whether or not production could be increased, and in my estimation output could be expanded by at least a third without much difficulty. I appreciate how deep rooted are many of the men's prejudices. They fear a return to 1939 conditions. They fear unemployment. The labourers at least are poorly paid. But even so there are two things which might be done at once to improve matters. *The primitive welfare services could be improved, and some real incentive to higher production might be given.* This would mean in the first place, the scrapping of the fantastic bonus system existing at present, which takes the form of the weekly payment of a sum dependent on the output of copper piping measured by weight. The output of the entire organisation is used in calculating a sum to be divided between all the coppersmiths. No tradesman seems to know in what proportion it is allocated to recipients. There is no check on the weighing of finished copper tubing.

(Weighing is one of the duties of the labourers. The common practice is to enter a weight on the tally card considerably in excess of the true weight). Furthermore, the labourers do not share in the bonus system at all. No wonder that as an incentive to greater production the present scheme is entirely non-effective ! In the second place, industrial relationships between management and workers have never been particularly happy in the shipbuilding industry. There is a continual guerilla warfare being fought out. These men that I worked with are not inherently selfish, nor are they unpatriotic. The team spirit and the comradeship which they display when 'fighting the bosses,' could be diverted to better ends. The men may be shortsighted, but the management must bear some of the blame. Unfortunately there seems to be little evidence of any move on the part of the management to foster a spirit of co-operation. They persist in certain unnecessary actions which provoke trouble. There is the disliked '7-30 a.m. lockout,' for example, whereby the yard gates at the main works are closed promptly at this hour and any unfortunate workman arriving at 7-31 a.m. is locked out until 1 p.m., with the consequent loss of a morning's pay. There has already been one inconclusive strike over this vexed topic. At a time when buses and trains are particularly crowded and a few minutes delay is often unavoidable, it would obviate much ill-feeling if the men were allowed to report two or three minutes late and lose ¼ hr.'s pay, a practice common in many factories and large scale organisations. The men have a further grievance at one of the subsidiary works, for here the timekeeper's office adjoins the dock wall and the men have nearly 15 minutes walk to reach it. This means that the dock must be entered at 7-15 a.m. in the morning if one wishes to clock on, and it is nearly 5-45 p.m. in the evening before one is outside the dock gates. If the management were to erect a timekeeper's office at the dock entrance, or alternatively to allow employees to be paid for 'walking time,' this legitimate grievance could be eliminated.

Officially there is no time allowed for morning or afternoon break. It is intended that work should continue non-stop

with just the one hour break for dinner. But there are three or four canteens scattered about the docks and breaks are taken when persons feel like them. These canteens are run by private individuals for private profit. With the solitary exception of the Y.M.C.A. canteen the food is not good. The company would be well advised to introduce a small mobile canteen and allow their employees recognised 'break periods.' They would actually gain by an increase in the number of hours worked consequent upon such an innovation. At the moment workers stay in a canteen for an hour if they feel so disposed. The canteens are a long distance from their place of employment, and they take the long way round, via the dock wall, to reach them, so that there is no danger of 'officials seeing them.' The introduction of the aforementioned reforms would remove the men's sense of guilt every time they visit a canteen and prove a stimulus to increased production.

Such elementary necessities as sanitation are deplorable. Lavatories consist of drainage pipes of wide diameter, with holes cut in the top at regular intervals, reminiscent of what the troops experienced in India during the war. They are not private. Partitions are provided on one side consisting of sacking suspended from ropes. Instead of improving the facilities, industrial relations are so bad that the management contents itself with employing a paid 'lavatory policeman.' His sole duty is to clock employees on and off as they enter and leave and to make sure that they do not delay unduly !

Even the system of wage payment of workers on Fridays is calculated to create ill-feeling. On Thursdays employees are issued with a pay-slip, specifying the amount due after deduction of income tax, national insurance, etc. The information given on this card is very sparse. The 'necessary deductions' are enumerated together with the figures for gross and net wages, but there is no mention of the number of hours worked or the rate paid per hour. When a man is working a 'flat week' on a particular job he is likely to be able to calculate his wages to his satisfaction, but when, as is so often the case, employees are working overtime on various jobs with varying rates of pay, any such calculation is extremely difficult. The

fact that the Wages Office is separated from the dock by a river does not help matters. One does not relish a 12 mile journey to investigate the correctness or otherwise of the contents of one's wage packet. The dissatisfaction is further aggravated by the very method of payment. No wage packets are used. The pay clerk hands the men their wages in their hand, "the silver just screwed up in the notes," on the production of the pay slip. If the wages actually paid out were less than the figure stipulated on the pay slip, the employee would find it difficult, if not impossible, to prove the error. It would be merely his word against the pay clerk's. Although instances of dishonesty among pay clerks are extremely rare, the possibility of fraud exists and no precaution against fraud or honest mistake, which is always liable to occur, is taken. A firm of the size and standing of this should insist on the use of sealed, transparent wage packets, so that any possible error could be detected before the envelope is broken.

These then are just some of the grievances which arise, which create ill-feeling and retard output in consequence, and which could be avoided by the exercise of a little foresight and understanding.

Most of the labourers are in the Transport and General Workers Union. The coppersmiths have their own union. Local Union leadership appears to be uninspiring, and there is a definite tendency for workers to take matters into their own hands and act outside the unions on some topics. This tendency was evident during the recent unofficial dock-strike. The painted signs which remain on the dock wall, "Citrine for chargehand," are evidence of the cynicism with which some workers regard 'the trade union official.' The reluctance of the Unions to press for wage increases has not gone down well. Many felt, rightly or wrongly, that the Government placed its emphasis on stabilising wages rather than restricting profits, and the promised price reductions have not materialised on any appreciable scale. The Trade Unions are blamed for not ensuring that the burdens are "placed fairly."

There is no doubt that a Communist element incites discontentment with its : "*You* work but still *you* want"

propaganda, but in my view their numbers are small, although influence is possibly greater than numerical strength. At the same time to attribute all trouble at the docks to "Communist Influence," as was done by many observers during the summer dock strikes is ridiculous, in my estimation. Although the Coppersmiths' shop did not join in this particular strike they pledged all assistance short of strike action and were on the point of joining in when Mr. Attlee's broadcast so dramatically ended the dispute. Among these men the influence of the Communists is negligible.

It may be that the advent of the Labour Government is indirectly responsible for this slight disillusionment with the Trade Unions. To-day the Trade Unions are not primarily concerned with "fighting against things." They are "backing up" their Government, even on matters which are sometimes unpalatable to the rank and file, and to the trade unionist who takes a narrow, personal view rather than a broad national view, his trade union may appear ineffective or even superflous.

To say, as we have done, that there is some dissatisfaction with one particular aspect of government policy, does not mean that the industrial worker has lost his faith in the Labour administration. These men I worked with were still steadfast in their support of the party they helped to put in power in 1945. Communists and Conservatives were rare, although it is possible that the former had a slight numerical preponderance. Communists were denounced as greatly as the Conservatives.

In addition to the discontent shown with the stabilisation of wages policy pursued by the Government, there was also some evidence of a distaste of foreign policy, despite the fact that Ernest Bevin has a record of great service on behalf of these men. The general feeling seems to be that we have taken sides in a dispute between America and Russia and irrespective of who is right or wrong, we should have prevented ourselves from becoming embroiled. (An ugly scene was prevented from developing one day when several dockers who wanted to throw U.S. Army equipment into the dock were prevailed upon to desist by wiser counsels. The dock diver very nearly had a busy two or three weeks' work, however).

On a recent visit to the workshop (October) I obtained the impression that feeling toward Russia had hardened slightly.

Still the men feel that this is their Government and on the whole its record is good. They appreciate the work that has been done in the field of the social services, and the 1948 Health Service Act in particular is regarded with great favour. Mistakes may have been made but they are convinced that any other administration would have made many more.

I have already said that in my estimation output could be increased by a third. In order to achieve this improvement the men must be persuaded to suspend their restrictive practices, and the management must be persuaded to foster a better spirit of co-operation between them and the men. Ways in which more harmonious industrial relationships may be encouraged have been enumerated earlier in this survey.

In order to encourage the men to abandon their restrictive practices they must be given some security of employment, and at the same time they must be made to realise the vital necessity of increased production to the nation. At the moment they do not seem to appreciate that a bigger output will be in their own interest. Many of them feel that they are working in order to put dividends in shareholders' pockets and that Britain's present economic crisis does not concern them. They proved in war-time that if they appreciate the issues at stake they will bring forth tremendous efforts. The Government has done much by its press and cinema campaigns to convince the nation of the necessity of a whole-hearted effort on its part in the production drive, but somehow this appeal had not 'caught on' with the men I worked with. No doubt 'pep talks' by M.P.'s, etc., at the dock gates and in the workshops, on the lines of those delivered during war-time, would be of immense benefit. Unfortunately, I came across only one valiant spirit conducting such a campaign and even this energetic M.P. cannot cover the whole of dockland alone.

R. S. Stokes

Statistics Relating to the North-West

The Economic Research Section of the University of Manchester has begun to compile statistics of the North-West Region of the country, which will be published regularly in the Manchester School. The first instalment appears in the following pages. At present the Tables mainly bring together data for the Region which are already available elsewhere but not always in a convenient form. The important gaps in regional statistical information emerge clearly from a study of these Tables, and it is realised that they give only a partial picture of what is happening in the area. It is hoped gradually to improve and extend the statistics, so that eventually all the important features of the changing pattern of economc activity of the region are covered.

ECONOMICS RESEARCH SECTION.

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TABLE I.
CIVILIAN POPULATION.

	Thousands					
	Total		Total	Aged 18 and over	Aged 5 to 17	Aged under 5
	Towns with over 20,000 inhabitants		All Towns			
	1939 July	1948 June	1947 July			
Total North West ...	**4,503**	**4,452**	**6,147**	**4,558**	**1,079**	**510**
Manchester Area ...	**1,341**	**1,303**	**1,574**	**1,178**	**266**	**130**
Manchester	728	698	697	503	119	57
Salford	197	177	174	128	31	15
Stockport	136	142	139	105	23	11
Stretford	59	61	60	46	9	5
Merseyside	**1,310**	**1,261**	**1,480**	**1,042**	**302**	**136**
Liverpool	822	768	764	525	166	73
Birkenhead	143	136	136	97	26	13
Wallasey	94	100	97	71	17	9
Southport	79	84	85	68	12	5
Bootle	74	68	67	44	16	7
Spinning District ...	**812**	**811**	**1,166**	**884**	**189**	**93**
Bolton	168	166	165	126	26	13
Oldham...	124	119	119	91	19	9
Preston	113	118	120	89	21	10
Rochdale	90	87	87	67	13	7
Bury	59	57	63	48	10	5
Weaving District ...	**331**	**322**	**473**	**369**	**70**	**34**
Blackburn	112	109	124	96	19	9
Burnley	87	84	107	83	16	8
Coal Chemical District	**313**	**318**	**671**	**485**	**127**	**59**
St. Helens	107	107	108	76	22	10
Wigan	83	85	106	77	20	9
Warrington	78	79	101	73	19	9
Fylde District	**201**	**234**	**350**	**275**	**52**	**23**
Blackpool	128	152	153	123	21	9
Southern Cheshire ...	**127**	**135**	**331**	**249**	**56**	**26**
Chester...	44	48	86	64	15	7
Furness Area	**68**	**68**	**102**	**76**	**17**	**9**
Barrow-in-Furness ...	68	68	66	49	11	6
Development Area ...	190	192	372	269	71	32

Sources : Registrar General and Ministry of Food.

TABLE II.

INSURED PERSONS EMPLOYED AND UNEMPLOYED BY TOWNS AND DISTRICTS

	EMPLOYED		UNEMPLOYED					
				1948				
	1939 July	1947 July	1947 July	April	September			
	Total	Total	Total	Total	Total	Men	Women	Juveniles
	Thousands		Number					
Total North-West ...	**2,116**	**2,199**	**48,480**	**53,442**	**52,530**	**39,200**	**11,089**	**3,241**
Manchester Area ...	**637**	**584**	**8,658**	**9,236**	**9,447**	**6,995**	**1.840**	**612**
Manchester	359	331	3,441	4,376	5,542	4,120	1,003	419
Salford	58	61	944	1,138	1,131	1,008	89	34
Stockport	43	45	972	906	906	566	247	93
Stretford	45	54	200	211	256	142	99	15
Merseyside	**460**	**521**	**22,559**	**25,866**	**27,093**	**20,902**	**5,207**	**984**
Liverpool	298	338	15,824	17,381	18,270	14,716	2,957	597
Birkenhead	39	42	1,711	2,336	1,966	1,475	424	67
Southport	19	22	580	820	853	739	102	12
Bootle	33	37	2,209	2,432	2,509	1,756	599	154
Spinning District ...	**417**	**436**	**6,001**	**5,113**	**4,347**	**3,476**	**698**	**173**
Bolton	65	68	1,124	828	875	688	167	20
Oldham	37	33	660	561	604	499	60	45
Preston	58	65	984	817	740	561	123	56
Rochdale...	45	43	241	183	196	141	40	15
Bury	21	33	145	138	143	128	15	0
Weaving District ...	**187**	**190**	**2,149**	**1,734**	**1,725**	**1,374**	**271**	**80**
Blackburn	42	48	489	490	410	350	34	26
Burnley	36	37	634	547	524	471	46	7
Coal-Chemical District	**203**	**228**	**5,607**	**4,956**	**5,251**	**3,370**	**1,656**	**225**
St. Helens	33	41	1,345	1,410	1,331	804	522	5
Wigan	39	40	1,204	1,172	1,264	988	229	47
Warrington	41	49	617	361	496	249	216	31
Fylde District	**89**	**100**	**872**	**3,944**	**2,067**	**1,645**	**366**	**56**
Blackpool	38	47	426	3,189	1,439	1,229	189	21
Southern Cheshire ...	**92**	**110**	**1,046**	**1,260**	**1,398**	**903**	**454**	**41**
Chester	31	39	365	615	602	440	138	24
Furness Area	**31**	**30**	**1,588**	**1,333**	**1,202**	**535**	**597**	**70**
Barrow-in-Furness ...	26	25	1,287	1,049	949	348	540	61
Development Area ...	107	117	3,855	3,551	3,571	2,478	1,007	86

Source : Ministry of Labour and National Services.

TABLE III.

VACANCIES FILLED AND OUTSTANDING BY TOWNS AND DISTRICTS.

	Vacancies Filled by Employment Exchanges				Vacancies Outstanding on Registers of Employment Exchanges			
	36 weeks ended September 1st, 1948. Weekly Average				September 1st, 1948			
	Total	Men	Women	Juve-niles	Total	Men	Women	Juve-niles
Total North-West ...	**12,273**	**7,688**	**3,625**	**960**	**64,892**	**18,024**	**27,744**	**19,124**
Manchester Area ...	**3,803**	**2,385**	**1,152**	**266**	**19,520**	**5,144**	**8,575**	**5,801**
Manchester	1,677	942	603	132	7,214	1,518	4,242	1,454
Salford	366	227	110	29	1,989	552	713	724
Stockport	272	163	82	27	1,986	432	619	935
Stretford	437	341	77	19	1,377	658	374	345
Merseyside	**2,795**	**1,517**	**957**	**321**	**5,991**	**1,865**	**2,596**	**1,530**
Liverpool	1,573	809	566	198	2,916	805	1,328	783
Birkenhead	278	177	61	40	612	241	186	185
Southport	135	66	56	13	583	61	303	219
Bootle	215	104	78	33	379	216	63	100
Spinning District ...	**2,258**	**1,538**	**618**	**102**	**20,980**	**3,916**	**9,411**	**7,653**
Bolton	345	228	105	12	3,229	532	1,276	1,421
Oldham...	221	140	59	22	2,639	190	828	1,621
Preston	375	260	99	16	1,754	610	600	544
Rochdale	258	192	58	8	2,608	649	952	1,007
Bury	110	81	25	4	1,020	261	552	207
Weaving District ...	**882**	**618**	**218**	**46**	**7,961**	**1,955**	**4,246**	**1,760**
Blackburn	260	177	62	21	1,744	342	1,079	323
Burnley	158	110	42	6	1,477	426	743	308
Coal-Chemical District	**1,178**	**773**	**273**	**132**	**3,643**	**1,521**	**964**	**1,158**
St. Helens	252	151	69	32	587	423	72	92
Wigan	153	89	49	15	482	124	278	80
Warrington	270	179	64	27	998	392	254	352
Fylde District	**672**	**407**	**228**	**37**	**2,186**	**821**	**936**	**429**
Blackpool	288	151	124	13	864	265	433	166
Southern Cheshire ...	**511**	**330**	**142**	**39**	**3,990**	**2,303**	**959**	**728**
Chester	170	92	65	13	534	248	203	83
Furness Area	**174**	**120**	**37**	**17**	**621**	**499**	**57**	**65**
Barrow-in-Furness ...	132	90	28	14	511	420	28	63
Development Area ...	572	352	155	65	1,752	765	434	553

Source : Ministry of Labour and National Service.

TABLE IV.

NUMBER OF INSURED PERSONS EMPLOYED BY INDUSTRIES.

	Thousands						
	1939	1947		1948			
	July	July	October	January	April		
	Total	Total	Total	Total	Total	Males	Females
All Industries	**2,116**	**2,198**	...	...	...[1]	...[1]	...[1]
Agriculture	26·8	27·8	...	...	...	...	...
Coal Mining	57·8	53·8	50·9	51·6	51·9	...	...
Glass	14·9	17·4	17·9	17·5	17·8	13·5	4·3
Chemicals, Paints, Oils, etc. ...	68·4	87·1	88·5	91·0	92·2	67·6	24·6
Metal Manufacture	28·9	30·3	30·5	31·0	31·2	26·9	4·3
General Engineering	116·9	150·1	151·7	154·3	155·9	132·1	23·8
Electrical Engineering	29·2	35·1	35·3	35·6	35·6	25·0	10·5
Marine Engineering	1·0	8·3	8·2	8·1	8·1	7·6	1·3
Constructional Engineering ...	6·0	15·6	14·0	13·5	9·0	7·6	1·3
Construction and Repair of Vehicles and Aircraft ...	56·7	69·5	70·3	71·4	72·6	63·2	9·4
Shipbuilding and Ship Repairing	20·6	33·6	33·0	33·6	32·7	31·7	1·0
Electrical Apparatus, Cables, etc.	34·8	57·2	58·7	60·7	59·6	32·8	26·8
Other Metal Industries... ...	43·3	54·7	55·0	56·9	56·7	41·4	15·3
Cotton Spinning	157·7	116·7	118·2	122·2	125·5	46·7	78·8
Cotton Weaving	142·1	91·7	91·9	93·9	96·2	32·4	63·8
Textile Bleaching, Dyeing, etc.	41·8	32·7	33·7	34·2	35·0	25·7	9·3
Other Textiles	62·7	59·4	60·3	61·4	61·7	26·4	35·3
Leather, Leather Goods and Fur	12·9	13·0	13·1	13·4	13·4	9·2	4·2
Tailoring	42·6	45·0	44·6	43·6	42·8	10·7	32·1
Other Clothing	71·9	55·5	55·7	56·4	55·6	14·3	41·3
Food, Drink and Tobacco ...	90·2	87·3	89·0	89·6	87·6	47·2	40·4
Woodworking, etc.	30·0	30·4	31·5	31·7	31·5	24·5	7·0
Building and Civil Engineering Construction	130·1	129·5	...	...	...	...	...
Paper, Printing, etc.	66·9	55·6	56·3	55·3	54·9	33·5	21·4
Rubber	23·6	25·9	21·2	27·8	28·5	18·1	10·4
Gas, Water and Electricity Supply	26·5	31·0	31·1	31·5	31·8	29·9	1·9
Transport and Communication	135·4	181·2	...	...	...	...	...
Distributive Trades	288·8	237·3	237·7	238·9	237·9	127·6	110·3

Source : Ministry of Labour and National Service.

(1) In July, 1947, the position was :—

Total	**2,197,690**
Males	1,431,540
Females	766,150

TABLE V.

NUMBERS OF INSURED PERSONS UNEMPLOYED AND VACANCIES OUTSTANDING BY INDUSTRIES. Number

	Unemployed				Vacancies Outstanding on Registers of Labour Exchange			
	1947 July	1948 September			1948 September 1st			
	Total	Total	Males	Females	Total	Men	Women	Juv'iles
All Industries ...	**48,500**	**52,537**	**40,780**	**11,757**	**64,892**	**18,024**	**27,744**	**19,124**
Agriculture	474	597	531	66	371	310	15	46
Coal Mining	532	584	571	13	340	260	5	75
Glass	430	448	278	170	137	49	44	44
Chemicals, Paints, Oils, etc.	2,225	1,207	847	360	1,646	1,193	178	274
Metal Manufacture ...	907	463	383	80	506	211	105	190
General Engineering ...	2,361	794	721	73	1,158	582	140	436
Electrical Engineering ...	393	419	313	106	805	300	275	230
Marine Engineering ...	341	143	109	34	56	38	...	18
Constructional Engineering	206	567	542	25	...	...	...	...
Construction and Repair of Vehicles and Aircraft	2,316	1,051	976	75	1,124	800	153	171
Shipbuilding and Ship Repairs	1,974	2,651	2,569	82	719	627	3	89
Electrical Apparatus, Cables, etc.	612	861	533	328	623	127	299	197
Other Metal Industries...	1,390	2,755	2,313	442	2,885	1,332	472	1,081
Cotton Spinning ...	818	772	540	232	13,911	980	7,378	5,553
Cotton Weaving ...	457	369	239	130	7,401	933	5,213	1,255
Textile, Bleaching, Dyeing, etc. ...	325	263	224	39	691	172	181	338
Other Textiles	550	708	387	321	2,559	292	1,477	790
Leather, Leather Goods and Fur	123	156	106	50	264	19	94	151
Tailoring	365	556	227	329	3,204	459	2,254	491
Other Clothing ...	590	1,134	604	530	2,779	37	1,933	809
Food, Drink and Tobacco	1,634	2,067	1,099	968	1,323	167	477	679
Woodworking, etc. ...	847	738	570	168	671	289	137	245
Building and Civil Engineering Construction	4,484	5,325	5,297	28	4,493	4,086	37	370
Paper, Printing, etc. ...	575	472	306	166	1,083	280	327	476
Rubber	490	525	392	133	1,502	121	216	165
Gas, Water and Electricity Supply ...	454	323	316	7	228	183	19	26
Transport and Communications	5,870	6,789	6,612	177	1,573	1,022	187	364
Distributive Trades ...	3,818	3,806	2,612	1,194	4,079	459	1,187	2,433
Catering and Domestic Service	...	2,961	1,171	1,790	2,712	144	2,284	284
National Local Government Service ...	5,574	3,803	3,243	560	1,372	834	396	142
Ex-Service Personnel ...	2,582	1,614	1,555	59	...	...	...	...

Source : Ministry of Labour and National Service.

TABLE VI.

PRODUCTION IN CERTAIN INDUSTRIES.

	(1) Cotton		Coal	(2) Pig Iron	(2) Steel Ingots and Castings	Ship-building	Building	
	Single and Doubled Yarn	Cloth				Vessels under Construction	New Houses Completed	
							Permanent	Temporary
	Million Pounds	Million Linear Yards	Thousand Tons			Th. Gross Tonnage	Number	
	Weekly Average					End of Period	Monthly Average or Calendar Month	
1938... ...	26·5 (3) (4)	79·0 (3)	275	20·6	21·0	54	... (5)	... (5)
1946... ...	19·04	38·0	207	20·2	28·0	200	515	732
1947... ...	19·22	38·7	218	20·2	27·3	234	1,232	514
1948 :								
January ...	22·14	43·0	225	22·1	31·5		1,611	76
February	23·48	46·8	235	22·8	32·0	227	1,636	225
March ...	22·59	45·3	225	22·6	29·9		1,969	93
April ...	23·39	45·9	224	22·8	34·1		1,789	161
May ...	22·38	45·9	237	23·3	31·9	261	1,959	79
June ...	23·48	49·1	248	22·2	33·5			
July ...	22·68	39·4	188	20·7	26·8			
August ...	21·64	46·5	224	21·8	27·6	266		
September	23·12	45·4	238	22·5	33·3			

Sources : Cotton Board, Ministry of Fuel and Power, Iron and Steel Federation, Lloyd's Register, Ministry of Health.

(1) National figures. Includes Rayon and Mixtures.
(2) Includes Flintshire, Denbighshire, Yorkshire (other than North-East Coast).
(3) 1937.
(4) Single Yarn only.
(5) From end of war to end of 1946.

TABLE VII

ALLOCATION OF GOVERNMENT FACTORIES.

	Factories allocated to September 30th, 1948	
	Number	Thousand square feet
All North West ... ... Total ...	**61**	**19,218**
Manchester Area ... ... Total ...	**16**	**4,288**
Textile Machinery	2	1,364
Electrical Engineering	1	744
Aircraft	2	520
Other Engineering	7	1,263
Merseyside ... ... Total ...	**8**	**4,755**
Industrial Estate	1	1,538
Rubber	1	1,400
Aero and Light Engines	1	1,308
Spinning District ... ... Total ...	**16**	**4,320**
Aircraft	2	1,730
Jet Engines	1	486
Textile Machinery	1	295
Other Engineering	11	1,918
Weaving District ... ... Total ...	**7**	**1,458**
Rayon and Rayon Machinery	1	1,165
Coal Chemical District	**7** [1]	**2,412**
Chemicals	1	2,016
Fylde District ... ... Total ...	**3**	**943**
Chemicals	2	826
Southern Cheshire ... Total ...	**2**	**952**
Engineering	3	722
Furness Area		
Powdered Metals	1	90

Source : Board of Trade.

(1) Of which five in the Development Area, area 389,773 square feet.

TABLE VIII.

RETAIL TRADE : SALES AND STOCKS.

	SALES					STOCKS
	All Departments	Food and Perishables	Non-Food Merchandise			All Departments
			Total	Apparel	Household Goods	
	Weekly Average					
	Year 1946 = 100					Corresponding month in 1946 = 100
1945 year (1)	87	91	81	87	60	...
1946 year (1)	100	100	100	100	100	...
1947 year ...	110	108	114	110	127	...
1947 :						
January ...	93	100	91	83	108	130
February	94	103	82	75	100	131
March ...	110	111	108	112	104	118
April ...	106	102	108	113	120	127
May ...	108	103	113	118	106	132
June ...	107	107	108	108	123	141
July ...	109	111	110	109	124	134
August ...	102	110	91	88	118	139
September	111	110	114	111	152	130
October ...	121	111	131	133	147	129
November	130	110	151	139	162	121
December	136	118	156	135	160	138
1948 :						
January ...	108	107	109	99	128	161
February	108	111	100	95	127	164
March ...	127	125	125	131	120	145
April ...	117	113	120	118	152	158
May ...	120	116	125	133	111	165
June ...	127	122	136	144	139	161
July ...	123	120	133	141	137	156
August ...	117	118	117	120	139	147
September	121	117	127	133	145	144

Source : Board of Trade Journal.

(1) Daily Average.

TABLE IX.

SHIPPING MOVEMENTS.

	1938	1946	1947	1948		
	Quarterly Average			1st Qtr.	2nd Qtr.	3rd Qtr.
	Thousand Tons					
FOREIGN TRADE						
Mersey and North-West Coast						
Total tonnage	...	5,374	6,152	6,833	7,449	7,632
Arrivals with cargo ...	...	2,217	2,675	2,966	3,272	3,324
Departures with cargo ...	...	1,328	1,501	1,690	1,986	2,020
Liverpool						
Arrivals with cargo ...	2,797	1,652	1,969	2,008	2,327	2,353
Arrivals with cargo and ballast	3,659	2,049	2,415	2,538	2,895	2,931
Departures with cargo ...	1,956	1,035	1,218	1,399	1,677	1,669
Departures with cargo and ballast	3,380	2,043	2,311	2,517	2,819	2,768
Manchester (including Runcorn)						
Arrivals with cargo ...	816	423	586	803	738	677
Arrivals with cargo and ballast	884	476	624	832	757	704
Departures with cargo ...	326	194	227	221	279	321
Departures with cargo and ballast	724	435	542	638	628	672
COASTING TRADE						
Liverpool						
Arrivals with cargo ...	498	378	471	404	561	590
Arrivals with cargo and ballast	748	676	697	668	896	1,036
Departures with cargo ...	519	386	450	474	569	554
Departures with cargo and ballast	1,082	713	857	770	1,087	1,227

Source : Board of Trade Journal.

NOTES AND DEFINITIONS.

Geographical Definitions ; The NORTH-WEST comprises the counties of Lancaster and Chester. Labour statistics also include the High Peak Parliamentary Division of Derbyshire. The only figures in which this Region cannot be identified are the iron and steel production figures which include Sheffield and other parts of Yorkshire, other than " North-East " Coast, and Flintshire and Denbighshire.

Tables 1, 2, 3 and 7 subdivide the Region into its constituent districts. The sub-divisions are those adopted by the Economics Research Section's pre-war publication " Re-Adjustment in Lancashire " (1936). A separate line is added on Tables 1, 2 and 3 to show the position in the Development Area. The Ministry of Labour Employment Exchanges in these sub-regions are as follows (those in the Development Area are in italics).

MANCHESTER AREA : Altrincham, Ashton-under-Lyne, Bamford, Bredbury, Buxton, Chapel-en-le-Frith, Denton, Eccles, Glossop, Hyde, Knutsford, Levenshulme, Manchester, Marple, New Mills, Newton Heath, Openshaw, Prestwich, Reddish, Salford, Stalybridge, Stockport (including Poynton), Stretford, Wilmslow, Withington.

MERSEYSIDE : Birkenhead, Bootle (including Litherland and Crosby), Croston, Ellesmere Port, Frodsham, Garston, Hoylake, Liverpool (Leece Street, Old Swan, Walton, Regent Road (formerly " B " Clearing House)), Neston, New Ferry, Ormskirk, Southport, Wallasey.

SPINNING DISTRICT : Bamber Bridge, Bolton (including Turton), Bury, Chadderton, Chorley, Failsworth, Farnworth, Heywood, Kirkham, Leigh, Leyland, Littleborough, Longridge, Middleton, Mossley, Oldham, Pendlebury, Preston, Radcliffe, Ramsbottom, Rochdale, Royton, Shaw, Walkden, *Westhoughton.*

WEAVING DISTRICT : Accrington, Bacup, Blackburn, Burnley, Clitheroe, Colne, Darwen, Great Harwood (including Clayton-le-Moors), Haslingden, Nelson, Oswaldtwistle, Padiham, Rawtenstall.

COAL-CHEMICAL DISTRICT : *Ashton-in-Makerfield, Aspull,* Atherton, and Tyldesley, *Earlestown, Golborne, Hindley, (including Ince Juvenile Employment Bureau),* Horwich, Irlam, Prescot, Runcorn, *St. Helens, Standish, Upholland,* Warrington (including Lymm), Widnes, *Wigan (including Pemberton.*

FYLDE DISTRICT : Blackpool, Carnforth, Fleetwood, Galgate, Lancaster, Morecambe, St. Annes-on-Sea (including Lytham).

SOUTHERN CHESHIRE : Chester (including Tarporley), Congleton, Crewe, Macclesfield, Middlewich, Nantwich, Northwich, Sandbach, Winsford.

FURNESS AREA : Barrow-in-Furness, Coniston, Dalton-in-Furness, Grange-over-Sands, Ulverston.

Ad. Table 1.—The figures for July, 1939, and June, 1948, are taken from the Registrar-General's Returns which specify the larger towns only. The figures for the sub-regions on the left-hand half of the table thus show the population in towns with over 20,000 inhabitants only, distinguishing the County Boroughs. The total population in July, 1947, in each sub-region, including the smaller towns and villages, is shown in the right-hand half of the table and has been calculated from the Ministry of Food Returns based on the 10th issue of Ration Books.

Note.—In Ministry of Food figures :
Preston includes Longridge U.D.
Bury includes Tottington U.D.
Chester includes surrounding district.

Ad. Table II.—The employment figures and the unemployment figures for 1947 and April, 1948, relate to numbers of insured persons, i.e., all male manual employees between the ages of 14 and 64, and all female manual employees between the ages of 14 and 59, and non-manual workers earning less than £420 a year. The pre-war figures had to be adjusted for some slight changes in geographical definitions and for changes in the people included in the insurance scheme, which pre-war covered women between the ages of 60 and 64 inclusive but included non-manual workers earning up to £250 only. Owing to the extension of the Insurance Scheme on July 5th, 1948, the unemployment figures for September, 1948, include all the persons on the registers of the Employment Exchanges, including a small number who were not insurable before July 5th, 1948.

Note.—Manchester includes Employment Exchange Areas of Levenshulme, Manchester, Newton Heath, Openshaw and Withington.
Stockport includes Poynton.
Liverpool includes Employment Exchange Areas of Leece Street, Old Swan, Regent Road, Walton.
Bolton includes Turton.
Wigan includes Pemberton.
Warrington includes Lymm.

Ad. Table III.—The placing work of the Ministry of Labour Exchanges reflects mobility of labour, since the majority of manual workers, and a large proportion of non-manual workers notify their employment exchange when unemployed in order to qualify for benefit. The reliability of the vacancies figures varies with employers' habits of notifying or not notifying the local Labour Exchange of any vacancies outstanding. In times of widespread labour shortage it is likely that relatively more vacancies are notified than in times of widespread unemployment.

Note.—Definitions as in Table II.

Ad. Table IV.—This table subdivides the total numbers of insured employed by chief industries in the North-West. The classification of industries and the order in which they are placed follows Ministry of Labour practice. But not all industries shown in the Ministry of Labour's Tables Relating To Employment And Unemployment in Great Britain are reproduced here, since some industries, though important nationally are of small importance in the Region. The figures for October, 1947, and the 1948 figures are calculations made in the Economics Research Section on the basis of the Ministry of Labour "L" Returns which do not cover all firms as do the figures based on the Ministry's July count. The figures had to be calculated on the basis of indices and on the assumption that the movement in firms not making monthly returns is the same as in those who do. It is believed, however, that the error is not large.

Ad. Table V.—The unemployment and vacancies figures are arranged the same way as the employment figures in Table IV. The unemployment figures for July, 1947, relate to the industry in which the person was employed at the preceding exchange of books, the figures for September, 1948, relate to the last job held by the people registering as unemployed., e.g., those temporarily employed in connection with the issue of Ration Books will register under the heading National Government Service. Regarding the vacancies figures see Note **ad.** Table III.

Ad. Table VI.—This table gives production figures for some of the principal industries in the Region. The textile figures are national ones, but in

this case the national figure indicates the trend in the Region almost as well as a regional figure would do. It is hoped to replace the national textile figures by regional ones for the post-war years as soon as possible.

Ad. Table VII.—This table relates to war-time Government factories allocated to industrial use.

Ad. Table VIII.—The indices of retail trade show relative, rather than absolute, changes in prosperity. The figures are taken from the Board of Trade Journal, but have been recalculated to give 1946, the first full post-war year, as the base, rather than 1942, which is the Board of Trade's base year. They relate to a sample of departmental, co-operative and wholesale stores.

Ad. Table IX.—The figures for arrival and departures with cargo are an index of the volume of trade that passes through the ports. The extent to which the figures for arrivals and departures with cargo and ballast exceed the figures for arrivals and departures with cargo indicates the importance of other port activity, such as berthing and ship repairing.

Books Received

AMERICAN ECONOMIC ASSOCIATION :

A Survey of Contemporary Economics.
Ed. Howard S. Ellis.
Blakiston Co., Philadelphia.

ERICH SCHNEIDER :

Einfuhrung in die Wirtschaftstheorie
I Tiel : Theorie des Wirtschaftskreislaufs.
J. C. B. Mohr (Paul Siebeck), Tubingen.

UNITED NATIONS :

Measurement of National Income and the Construction of Social Accounts.

A Survey of the Economic Situation and Prospects of Europe.

J. E. MEADE :

Planning and the Price Mechanism :
Allen & Unwin.

T. S. ASHTON :

The Industrial Revolution, 1760-1830 :
Oxford University Press.

K. KRISHAN & J. SINGH :

Indian Economics :
Premier Publishing Co.

G. H. EVANS :

Business Corporations in the U.S. 1800-1943 :
National Bureau of Economic Research.

International Approaches to Problems of Undeveloped Areas :
Millbank Memorial Fund, N. Y.

J. R. HICKS :

The Problem of Budgetary Reform :
Oxford University Press.

The Economic Survey for 1949

I.

The Economic Survey for 1949 is the third of the series. The first Survey, for 1947, concentrated attention on targets for production, exports and man-power distribution. In the 1948 Survey detailed production and export targets were still given an important place, but in addition forecasts of national income, resources and expenditure were given for the first time as a guide to general financial and budgetary policy. In the Survey for 1949 individual production and man-power targets have receded into the background ; prominence is now given to the overall financial position both of the balance of payments and national accounts. It seems fairly clear that those who attach great importance to getting the general economic climate right and realise how difficult detailed physical planning is, have gradually gained the ascendancy.

The reluctance to place much emphasis on detailed man-power and production targets is understandable in the light of what actually happened in 1948. In the Economic Survey for that year total National Income for 1948 was forecast at £9,000 million compared with £8,725 million in 1947. In the event National Income was £9,675 million, about 10 per cent. higher than in 1947. Some, but not all, of this increase was due to a greater rise in prices [1] than was anticipated when the estimate of £9,000 million was made. There is little doubt that national income in real terms has risen more than was expected. Now the curious thing is that this increase beyond expectations has occurred even though hardly any of the individual production and man-power targets set out in the Survey a year ago were achieved. The continued failure to reach the man-power targets is notorious and can be seen quite clearly from Table 18 of the Survey. The comparison between output targets and achievement is more difficult to trace in the Survey and is given in the following Table.

[1] An implied rise in prices of 3-5 per cent. in 1948 compared with 1947 was allowed for in the estimate of £9,000 million.

TABLE I.

PRODUCTION TARGETS AND ACTUAL OUTPUT IN 1948.

	Unit	Target	Actual
Coal, Deep Mined	Million tons	200	196·7
Coal Cutters	Number	1,400	1,248
Power Loaders	Number	250	155
Conveyors	Number	4,700	4,044
Tubs and Cars	Tons	70,000	60,700
Steel Ingot	Million tons	14 *	14·88
Sheet Steel	,, ,,	1·30	1·39
Tinplate	,, ,,	·75	·73
Cotton Yarn : Year	Million lbs.	900	890
End Year Rate	,, ,,	1,000	955†
Worsted Yarn : Year	,, ,,	190	182
End Year Rate	,, ,,	204	194†
Woollen and Worsted Cloth : Year	Million yards	290	267
End Year Rate	,, ,,	300	290†
Rayon and Staple Fibre : Year	Million lbs.	255	234
End Year Rate	,, ,,	285	250†
Bread Grains	Thousand Acres	2,595	2,340
Other Grains	,, ,,	6,050	6,016
Potatoes	,, ,,	1,423	1,548
Sugar Beet	,, ,,	400	413
Linseed	,, ,,	150	86

*Later revised to 14·5 million tons.

† The annual rate in November.

Except for steel, potatoes and sugar beet, output was deficient in every case. Now what is the significance of exceeding the estimated national output in total, and yet failing to meet the production targets? It may be that the authors of the 1948 Survey never really expected the targets to be achieved and did not assume their achievement in their estimate of expected total output. But it will be remembered the 1948 Survey invited the co-operation "of all our people in the achievement of these targets, as the first condition of our national survival in this and the coming years." [1] If they were the "first condition of our national survival" how can we fall down on them and not merely survive but even increase our total national output beyond expectations? [2] Or it may be that the total national output figure is deceptive, and that changes in it have little or no meaning when prices, wages and profits are subject to substantial control.

II.

The rise in overall national output meant that we were able both to reduce the adverse balance and have left over for home use more than was expected. The way this bonus was shared out compared with 1947 and the original estimate for 1948 can be seen in the following Table.

The Survey states that only part of the increase in resources available for home use from £10,105 million to £10,620 million was due to higher prices and that "total real resources for use at home were more in 1948 than in 1947".[3] This surely is wrong: for it would imply a price rise of less than 5 per cent. and there is evidence in other parts of the Survey that the

[1] *Economic Survey for* 1948 (Cmd. 7344). Para. 171.

[2] It is, of course, possible that the national income increase for 1948 is partly accounted for by finding, through the new man-power statistics, that 1,000,000 more people are occupied than was previously thought. This is not mentioned in the Survey and we shall have to wait for the White Paper on National Income and Expenditure to see how this find has been allowed for.

[3] Para. 96.

TABLE II.

NATIONAL INCOME AND RESOURCES AVAILABLE FOR USE.

£ million

	1947	1948	1948
	Actual	Actual	Estimated in 1948 Survey
Gross National Income ...	9,475	10,500	9,700
Overseas Disinvestment ...	630	120	250
Resources Available for Use at Home	**10,105**	**10,620**	**9,950**
Personal Consumption ...	7,465	8,004	7,675
Government Expenditure on Goods and Services *...	2,069	1,914	2,050
Gross Capital Formation *	2,040	2,352	1,800
Less Indirect Taxes net of Subsidies	1,469	1,650	1,575

*Capital expenditure by the Government is included under "Gross Capital Formation."

price rise must have been at least this amount.[1] It is probably more correct to conclude that real resources for use at home remained unchanged, the whole of the increase in output going to improve the overseas position.

III.

Inside the unchanged total, Government current expenditure took less, with capital investment correspondingly more, than in 1947 ; while the level of personal consumption remained unchanged.[2] The most startling change in the use of home

[1]The revaluation of consumption in Table 22 of the Survey implies a price rise in that sector in 1948 compared with 1947 of over 6 per cent. In para. 103 it is stated that about one-half the increase in gross capital formation was due to higher prices, which would imply a price rise in that sector of about 7 per cent. There is no reason to believe that prices of Government goods and services rose less than in these two groups. Even allowing for some difference in movement between factor and market prices it is difficult to conclude that "resources prices" rose by less than 5 per cent.

[2]As the Survey itself points out this doesn't mean that we are no better off, since there was an important move inside the total "towards giving consumers what they wanted." (Para. 97).

resources compared with the estimate made in the 1948 Survey is in the figure of home capital investment. Capital investment in 1948 was £2,352 million compared with £1,800 million forecast in the Survey for 1948 at the beginning of last year. Instead of being reduced by nearly 10 per cent. compared with 1947, there has been an increase of about 7 per cent. even after allowing for price changes.[1] How has this come about? It is only a year ago that the Government, in a panic about the balance of payments, decided that we were trying to do too much investment and expressed its intention in the Capital Investment White Paper to restrict the level of investment in 1948 below that of 1947. The 1949 Survey states that that policy was undertaken because "it was then estimated that the continued need to expand exports and limit imports would reduce resources for investment in 1948 even below the level in 1947. In the event the receipt of E.R.P. aid and the increase in steel output made it possible for a less restrictive policy to be followed." [2] Is this a correct interpretation of what happened? The intention to cut capital investment was repeated in the Survey for 1948, and the volume of exports in 1948 has been more, not less, than was allowed for in that Survey; and imports only fractionally greater.[3] Indeed the argument here used to explain the unexpected rise in home investment is later in the Survey reversed to explain a change in the estimated overseas balance. The actual estimate of the balance of payments for 1948-49 given in the Survey shows a much better position than that given a few months earlier in the Report to the Organisation for European Economic Co-operation.[4] The Survey states that the earlier estimate assumed "that we would be able to obtain much greater supplies from the non-dollar world than we did; and that we should have paid somewhat higher prices than those which in the event ruled in the second

[1]The Survey estimates that about half the increase over 1947 was due to price changes. (Para. 103).

[2]Para. 5.

[3]In the *Economic Survey for* 1948 exports were given as 125 (1938 = 100) for Jan.-June and 136 for July-Dec. Actual exports for these two periods were 130 and 143. The comparison for imports can only be made for Jan.-June, 1948; Survey 78 (1938 = 100), actual 81

[4]Cmd. 7572.

half of 1948. It also underestimated the increase in exports which has since taken place." [1] Surely we can't have it both ways.

The argument that it was possible to relax the restriction of capital investment because of greater supplies of steel is also difficult to follow. Although steel output was substantially more than originally estimated in the 1948 Survey, steel imports were appreciably less ; the supply of finished steel being only 300,000 tons more than forecast. Steel exports were higher than the target,[2] so that supplies of finished steel for use in the home market cannot have been appreciably greater than the estimate of early 1948. The implied close connection between steel supplies and total capital investment also looks a little curious if considered in relation to expectations for 1949. For although the supply of finished steel is expected to increase by 10 per cent.,[3] "the total of gross fixed investment is unlikely to rise much above the level of 1948." [4]

The truth is that the Government has consistently underestimated the level of investment that has actually been taking place, and although it may have restricted some items, it appears to have insufficient knowledge or effective control to enable it to budget for a particular total level of investment.

It is worth reviewing the estimates made of capital investment over the last year. In the White Paper on Capital Investment in 1948,[5] it was decided to cut capital investment from an estimated rate of £1,550 million in mid-1947 to £1,420 million in 1948.[6] These figures covered fixed plant and equipment only. The Economic Survey for 1948, issued three months later, showed actual total gross investment in 1947 as £1,900 million. The difference between this and the earlier

[1] *Economic Survey* 1949 : footnote on page 22.

[2] 134 per cent. of 1938 in volume in the 4th quarter of 1948, compared with an end-year target of 111 per cent.

[3] See Table II of the Survey.

[4] Survey, para. 45.

[5] Cmd. 7268.

[6] It was stated that if the cuts had not been put into operation investment would have reached £1,600 million in 1948.

figure of £1,550 million was explained as due to the increase in stocks and work in progress, and to cover a further increase in these and some rise in prices, the estimated rate for 1948 was raised from £1,420 million to £1,800 million.[1] A month later the White Paper on National Income and Expenditure in 1947 [2] showed gross home investment as £2,000 million in that year. At that stage a further omission came to light. It was revealed that the National Income estimates included capital expenditure of oil companies overseas in the figure for gross home investment.

In the Survey for 1949 another substantial error in the earlier figures is revealed. We are told, albeit in a footnote that "since the Economic Survey was published it has been possible to extend the categories covered by investment statistics."[3] It now turns out that the original planned figure for 1948 for fixed investment should have been £1,625 million instead of £1,420 million. Actual fixed investment in 1948 is given as £2,000 million,[4] and total gross investment as £2,350 million. This latter figure covers changes in stocks and work in progress as well as further investment by oil companies overseas and the increase in the value of exports shipped but not yet paid for.[5] These two latter categories together can hardly have amounted to less than £150 million. This would give £200 million as the addition to stocks and work in progress in 1948, which would be an important figure if it could be relied on. But it would be most dangerous to do so, since it is a residual of a residual.[6]

The mistakes made in the estimates of capital investment over the last year are especially disturbing ; for it is largely on the relationship between expected capital investment and

[1] *Economic Survey for* 1948 (Cmd. 7344). Para. 183.

[2] Cmd. 7371.

[3] Survey : footnote to page 4.

[4] It is also stated that this would have been £1,850 at 1947 prices—the prices actually used in the original estimate for 1948.

[5] This is done because of the peculiar practice adopted in the balance of payments.

[6] The total of gross home investment is arrived at as the residual of total national income less personal consumption and Government expenditure.

expected funds available to finance it, that a judgment is made of the overall financial policy that should be followed in the budget.

The ineffectiveness of the Government's attempts to plan investment can also be seen quite clearly from a comparison in detail of the plans set out in the Capital Investment White Paper with actual performance in 1948. This reveals that the restriction did not operate where it required a cut in the actual rate of production at the time; but that even the reduced level of output was not reached where the restriction required a lower rate of *increase* in production. For example, the building labour force never showed any real signs of declining notwithstanding the cuts in the White Paper. Similarly goods vehicles which were planned to fall from a rate of 100,000 at the end of 1947 to 50,000 in 1948, reached 85,000 in that year. And public service vehicles were due to be cut from an actual rate of 8,000 a year at the end of 1947 to a rate of 4,000 at the end of 1948, yet remained at 8,000. By contrast in such items as coal-mining equipment, electricity generating plant, gas plant, and railway locomotives and wagons, where the restricted rate of investment involved some increase in output, even the reduced rate was not achieved.

No great change in capital investment is forecast for 1949. Details are given for projects covering about £1,755 million out of a total of £2,300 million for home gross investment. The plans for individual industries are given in the following Table III which is a Summary of the Appendix on Capital Investment.

The total of these individual items shows an increase of about £100 million in 1949 over 1948, but the authors of the Survey, with now characteristic caution, point out that some of these estimates will not be achieved. For "past experience has shown that, however carefully the estimates for work to be undertaken may be drawn up, the investment actually achieved will, in some cases, be less than the programme as a result of unforeseen difficulties and delays. It is impossible to say in advance which programmes will be affected." [1] The level of

[1] Survey, para. 45.

TABLE III.

GROSS FIXED INVESTMENT

£ million

	1948 Actual	1949 Planned
Coal	25·3	27·6
Coke Ovens	4·1	6·6
Electricity	93·8	126·7
Gas	32·0	37·0
Petroleum	9·0	24·0
Railways	86	98
Roads	43	52
Goods and Public Service Vehicles ...	83	64
Shipping	119	96
Port and Inland Waterways	11	16
Civil Aviation	18	25
Post Office	37	42
Agriculture	82	88
Watercourses, Fisheries and Forestry ...	10	11
Iron and Steel	34	50
Other Manufacturing Industries	370	400
Housing	477	421
Education	28	47
Health	17	24
Water Supply	18	26
Defence	34	45
Government Building	24	26

fixed investment in 1949 after allowing for these deficiences, is estimated to be the same as in 1948. This, including miscellaneous fixed investment not itemised, was £2,000 million. Total gross investment in 1949 is shown as £2,330 million. The difference of £300 million will cover other forms of investment including increased work in progress and stocks.[1] This would seem to imply a substantial further increase in stockholding. Can it be assumed that business men will in fact wish to hold such increased stocks in 1949? If in fact there will be sufficient funds for a gross home investment of £2,330 million, ought not rather more to be allowed for fixed investment and rather less for stockholding? Or are the figures of gross investment still so shaky that it is impossible to draw nice distinctions of this sort?

IV.

The most striking change in the economic position in 1948 compared with 1947 was the improvement in the overseas balance. This is even better than was forecast in the 1948 Survey. The volume of imports was slightly higher than forecast, and the terms of trade continued to worsen in the first half of the year. But exports were about 5 per cent. higher than the target, and the net adverse balance on visible trade £218 million, compared with a forecast of £170 million. The visible trade position was, therefore, much as expected. Invisibles, however, yielded a surplus of £98 million, compared with an estimated deficit of £80 million. Thus the net adverse balance in 1948 was £120 million, compared with a forecast of £250 million.

This overall figure hides a substantial deficit of £340 million with the Western Hemisphere and surplus of £305 million with the Sterling area and O.E.E.C. countries. In addition to the United Kingdom's own dollar deficit, the net gold and dollar payments of the rest of the Sterling area have to be met from the central pool. The total drain on U.K. dollar and gold resources in 1948 was about £420 million. Since the total U.K.

[1]And, of course, oil companies investment overseas which is estimated at £91 million.

position was an adverse balance of £120 [1] this was matched by an overseas investment or reduction in sterling liabilities of about £300 million. Most of our extra export effort has, therefore, not enabled us to pay for our imports but allowed us to invest overseas and reduce our sterling liabilities. And we have been doing this to an even greater extent than is actually indicated in the Survey. For the British balance of payment figures are drawn up on a basis which actually underestimates our overseas investment. Firstly, equipment sent overseas for the use of British oil companies is not counted as overseas investment, even though it increases our overseas assets.[2] And exports are counted only when paid for and not as consigned ; this element of the increase in unpaid exports is substantial in a period of rising exports. In 1947 these two together were estimated at £100 million.[3] In 1948 expenditure by oil companies overseas alone was estimated at £83 million,[4] so the two together could hardly have been less than £150 million in that year. This would increase the figure of overseas investment and reduction of sterling liabilities to £450 million, and after the dollar deficit that was not paid for by E.R.P. gift is allowed for, would give a net overseas investment of £150 million in 1948 compared with the figure of a net disinvestment of £120 million quoted in the Survey.

The current annual rate of overseas investment is substantially underestimated if the figures for the whole year of 1948 are taken because exports were rising rapidly in the second half of the year, while imports were stable. Further, some increase in exports is planned for the first half of 1949, while imports are still being kept down to the same level. A better

[1] This is referred to both in the *Economic Survey* and the *White Paper* on Balance of Payments, as are "overseas disinvestment." But surely this would only be correct if all the receipts under E.R.P. were on loan. In fact, approximately three-quarters are a free gift. If allowance is made for this our overseas disinvestment in 1948, *i.e.* the net reduction of overseas assets and reserves, was only £10 million. There would be a small offset against this of sterling grants made by us to O.E.E.C. countries.

[2] It appears, as pointed out earlier, as part of gross investment at home.

[3] *National Income and Expenditure of the United Kingdom*, 1947. Appendix 1, note 9.

[4] *Economic Survey for* 1949. Appendix, para. 10.

picture of the current overseas position is given by the figures for July, 1948 to June, 1949.

TABLE IV.

BALANCE OF PAYMENTS ON CURRENT AND CAPITAL ACCOUNT.*

£ million

	1948–49 †
Current Account	
Western Hemisphere	— £255
Sterling Area	+ £290
O.E.E.C. Countries	+ £ 80
Other Countries	— £100
Total Current Account	+ £ 15
Capital Account	
Net Gold and Dollar Deficit U.K.	255
Rest of Sterling Area	24
Sterling Area gold and dollar payments to non-dollar countries	85
Total	364
Reduction in external capital assets and increase in Sterling liabilities	— 370

*Economic Survey. † July, 1948-June, 1949.

The Government appears to attach great importance to this non-dollar surplus, for all the plans for 1949 imply its continuation if not increase. But no satisfactory explanation is given of why we should continue to export nearly £400 million a year without getting goods and services in return now. The Survey states that these "surpluses are inevitable." [1] In explaining why this should be so, the arguments used are that part represents aid to O.E.E.C. countries, and part investment in the Commonwealth and Colonies which is an indispensable element in developing new sources of supply. But the first can hardly account for more than £100 million, and the second would not cover much of the remaining £300 million. It seems fairly clear that a large part of this £300 merely represents drawing on sterling balances. Is it worth pushing exports and restricting home consumption merely to do this? And in any case is it inevitable?

[1]Para. 62.

The persistence in this policy is still more startling when it is realised that our overseas position is much better than was estimated only three months ago, and that it is now expected to be much better in 1948-49 than was then forecast even for 1949-50. This can be seen from the following Table which compares the overseas balance on current account for 1948-49 now estimated in the Survey with the estimates for 1948-49, 1949-50, and 1952-53 given to O.E.E.C. and published last December [1] :

TABLE V.

U.K. : BALANCE OF PAYMENTS ON CURRENT ACCOUNT.

£ million

	1948–49†	1948–49*†	1949–50*†	1952–53†
	Economic Survey	Memorandum to O.E.E.C.		
Western Hemisphere ...	— 255	— 338	— 230	— 73
Sterling Area	+ 290	+ 123	+ 122	+ 204
Other Participating Countries	+ 80	+ 27	— 9	+ 12
Rest of World	— 100	— 177	— 84	— 43
Total	+ 15	— 365	— 201	+ 100

*These estimates must have been drawn up on the assumption that we should fall well below the export targets.

† July to June.

We have already been promised £313 million of E.R.P. aid for 1948-49, and expect to get £235 million for 1949-50. Surely in view of this we ought to adopt a more liberal import policy. If, as the Survey rather surprisingly maintains, it is diffcult to obtain imports—the January-June 1949 forecast for imports shows practically no increase on the level of July-December, 1948—then there would seem to be a strong case for relaxing the pressure to export, particularly where exports are being paid for out of accumulated sterling assets.

[1]Cmd. 7572.

Perhaps the authors of the Survey do not really believe that the export programme will be achieved in 1949 ; but there is no hint of this in the Survey itself.

The Survey, gives pride of place, in the objectives for 1949 to the reduction of the dollar deficit. The main proposal for doing this is still the encouragement of direct exports to the United States and Canada. But surely it is vain to hope that we can achieve a direct balance with these countries. Nor do the authors of the Survey seem to place much faith in their own measures and exhortations, for although it is stated in the concluding paragraphs of the Survey that "it will be the most important single aim of our economic policy during the year to raise the proportion of our exports going to these vital long-term markets" [1] (*i.e.* Canada and United States), it is admitted ruefully in the section of the Survey on the Balance of Payments that "the proportion of our total exports going to the Western Hemisphere is expected to remain at about 17 per cent. This suggests that in the first part of the year, at least, the broad geographical pattern of British exports is not likely to change very much." [2]

Of the problem which is now discussed daily in the financial columns of the newspapers—whether the recent fall in commodity prices and the change in the economic position in the United States will lead to a fall in international demand—there is not a mention in the Survey. The authors cannot be accused of looking further ahead than business men.

V.

The main lesson to be learnt from the economic experience of the last two years is the prime importance of the budget as an instrument of economic policy. Among the welter of missed targets, unfulfilled plans, and unachieved programmes in the details of production and man-power distribution, the general effectiveness of budgetary policy in 1948 stands out prominently. It was mainly because of the drastic anti-flationary policy followed in the budget for 1948 that it was

[1] Survey, para. 118 (1).

[2] Survey, para. 53.

possible both to increase capital investment and reduce the foreign adverse balance and yet at the same time relax controls and abolish some of the important restrictions on consumer expenditure. The general restraint exercised in wage demands and dividend payments undoubtedly helped, but these would have been much less effective, and indeed might have been impossible to operate at all, without the underlying change in the economic climate induced by the large Government budgetary surplus.

It would be wrong, however, to conclude from this experience that we have now mastered the technique of over-all financial planning to such a degree of finesse as will enable us without difficulty to keep the economy on an even keel in the future. In 1947 and early 1948 the inflationary pressure in the economy was so obviously strong that it was quite clear that a substantial budget surplus was needed. As long as the estimates of capital expenditure and the funds available to finance it in 1948 were even roughly correct, there was little danger of our going too far in the anti-inflationary direction. The pressure on investment and of unsatisfied consumer demand was so great and the need to increase exports so clear, that there was little danger of there being too large a budget surplus. The Government could afford to make substantial mistakes in its estimates without disastrous consequences.

That such mistakes were made is obvious from a comparison of the estimates for the year 1948 made in the Survey for that year with what actually happened. This can be seen most clearly from the estimates of the capital account (Table VI). It is not at all easy to interpret this comparison. It must be remembered that the forecasts in the Survey for 1948 were given only be way of illustration as a guide to budgetary policy, and that the estimate of the current surplus of public authorities was based on actual taxation rates in operation before the budget, and the continuation of then existing rates of expenditure. Expenditure has been very close to that estimate but the proceeds of taxation well in excess of it. This is only partly due to revised rates of taxation introduced in the 1948 budget. The continued unexpected rise in the national

TABLE VI.

CAPITAL ACCOUNT : 1948—FORECAST AND ACTUAL.

Sums set Aside	Estimate in Economic Survey for 1948	Actual *	Capital Formation	Estimate in Economic Survey for 1948	Actual *
Current Surplus of Public Authorities ...	125	427	Gross Capital Formation at Home	1,800	2,352
Transfers to Private Capital Account ...	150	179			
Additions to Company Tax Reserves ...	— 100	50			
Depreciation Allowances	700	825	Foreign Balance	— 250	— 120
Undistributed Profits...	225	540			
Personal Savings ...	450†	211			
Total	1,550	2,232	Total ...	1,550	2,232

*Economic Survey for 1949, Table 25, page 39.

†This was, of course, the residual item which merely brought both sides of the account into balance.

income was a more important contributory factor. Gross undistributed profits also expanded much more than forecast for the same reason. But the expansion in taxation and profits also reflect a rise in prices greater than was allowed for in the estimates, and to that extent indicate that the inflation was not controlled as effectively as had been assumed.

The problem of assessing the correct action to be taken in the budget in 1949 is much more difficult. For the attempt to keep the economy on the razor edge between over-employment and under-employment demands much more precision in forecasting. The Survey comes down heavily in favour of the view that the underlying tendencies are still inflationary. There is not even a passing reference to the possibility that difficulty in selling exports and the end of the re-stocking process at home might drastically change the whole economic situation. The most significant figures indicative of the view

taken by the authors of the Survey is that of prospective undistributed profits after taxation which are shown as increasing from £1,365 [1] million in 1948 to £1,475 [1] million in 1949. This is in strange contrast to the rather gloomy views about future profit levels expressed in some recent reports of company chairmen.

The authors of the Survey use two arguments to support their conclusions that "disinflation has not gone very far" [2] and that "in 1949 the nation will face a further stage in the fight against inflation." [3] First that at the present stage, "the abandonment of price controls would almost certainly lead to higher prices for essential goods" [2]; and second that although the Economic Survey for 1948 allowed for an increase in unemployment to 450,000, in fact unemployment did not rise above 350,000. These arguments are supported by an analysis of the estimated capital account for 1949 which lead to the conclusion that the total of personal savings and Government surplus needed in 1949 are much the same as 1948. But the capital account in no way proves this. The conclusion is implicit in the estimates of national income, profits, investment and overseas trade, etc. used in arriving at the capital account and depends on the reliability of those estimates. And in the end one is still left with the question whether the level of personal savings required will be undertaken voluntarily or will be induced through continued inflationary pressure. And as the Survey itself admits "how far this or, indeed, any particular figure would in practice be realised, is a matter of judgment, and comparisons with past years may be misleading." [4]

Clearly the judgment of the authors of the Survey leads them to take an optimistic view of 1949. Let us hope they are right; but that they are ready, if they turn out to be wrong, to take the necessary remedial action.

[1]Including sums set aside for depreciation.
[2]Survey, para. 108.
[3]Survey, para. 110.
[4]Survey, para. 115.

E. Devons

Manchester, March, 1949.

The Development Areas

This paper deals with the structure and distribution of industry in the Development Areas during pre-war, war and post-war years, and compares changes in the Development Areas with those in the country as a whole.

I. 1929-1939.

Figures for the pre-war decade are only available for 1929 and 1939. These show that, judged by the number of insured persons, the Development Areas lost ground relatively to the country as a whole. For, whereas in 1929 [1] the Development Areas accounted for 17·45 per cent. of the insured population of Great Britain, by 1939 the figure had fallen to 15·53 per cent. Such a decline was considerable : if the Development Areas had maintained their 1929 share, in 1939 they would have had some 290,000 more insured persons than they actually had. The decrease of insured persons in employment was not quite so large. In 1929 their percentage was 16·34 ; in 1939 it was 14·52. Of those unemployed, an unusually high proportion were males—*e.g.* in 1932, over 90 per cent. ; in 1935, about 92 per cent. ; and in 1937 over 87 per cent.

The fall in the Development Areas' share of the insured population was not spread equally over the separate Areas. If the 1929 share of Great Britain's total possessed by each Area is taken as 100, by 1939 both the Scottish and North Eastern Areas had moved down to 94·4, South Wales to 97·9, and the three small Areas of South Lancashire, West Cumberland and Wrexham combined to 93·7.

Changes in principal types of economic activity between 1929 and 1939 are shown in Table I. As data are available only for 26 broad industrial groups it is not possible to make an accurate division between each type of activity—especially between investment goods industries and consumption goods industries. Agriculture is excluded.

[1] Strict accuracy cannot be claimed for the figures for 1929 because it has been necessary to estimate the numbers in age groups not then insurable. All figures in this paper are for the month of July.

TABLE I

PERCENTAGE OF INSURED PERSONS IN PRINCIPAL CATEGORIES OF ECONOMIC ACTIVITY

	Development Areas		Great Britain	
	1929	1939	1929	1939
General purpose goods ...	27·3	18·6	10·0	6·7
Investment goods	27·2	29·1	20·0	20·8
Consumption goods	18·7	19·2	36·6	34·4
Consumers' services	26·8	33·1	33·4	38·1
	100·0	100·0	100·0	100·0

The industrial structure in 1929 may be considered first. That of the Development Areas differed appreciably from that of Great Britain. The much higher proportion in general purpose industries was due principally to mining and quarrying —and predominantly coalmining. Indeed, although in total the Development Areas had little more than one-sixth of Great Britain's insured numbers, in coalmining they had more than one-half. They had also rather more than their share of iron ore mining.

The distinctively higher percentage shown by the Development Areas for investment goods industries mainly resulted from their disproportionate numbers in shipbuilding and the manufacture of iron and steel and tinplate. In the former, their numbers were nearly three-fifths of the total in Great Britain, and in the latter more than two-fifths. The Development Areas were also more committed to engineering.

The comparative weakness of the Development Areas in consumption goods industries was both specific and general. They were specially deficient, relatively, in textiles and clothing —in which together they had 7·4 per cent. against 15·7 per cent. in Great Britain. They were also noticeably weaker in the making of metal goods. But in all consumption goods industries the proportions were distinctly below those for

Great Britain. Further, various smaller consumption goods industries to be found in other parts of the country were either weakly-represented, or entirely absent.

Of all the categories, the difference between the Development Areas and Great Britain was least in consumers' services. The major causes of the disparity were the lower proportions in catering, personal services and distribution—more especially in the two former.

Between 1929 and 1939, the revisions of industrial structure were substantial. In general, that of the Development Areas grew to be more like that of Great Britain. The major reason was the large decline of the percentage in general purpose goods industries and the growth of that in consumers' services. Some influence, but a small one, was due to the somewhat larger fraction engaged in consumption goods industries.

The decrease in general purpose goods industries was attributable preponderantly to the absolute drop of numbers attached to coalmining. There was besides a small fall in those attached to iron ore mining. In Great Britain, coalmining fell also, but less so.

The rise in the percentage of persons engaged in investment goods industries was profoundly influenced by the advance in building—5·3 to 9·6 per cent. Metal manufacture decreased from 6·9 to 5·8 per cent., shipbuilding from 5·1 to 3·5 per cent., and other investment goods industries also decreased their percentages. In Great Britain, the advance in building was much smaller, but other investment goods industries did not contract so much.

The minor percentage gains recorded by consumption goods industries resulted from expansions in all constituent industries except textiles. The latter fell away, but not by enough to offset the gains. The largest individual rise took place in clothing. In Great Britain, not only did textiles fall away considerably, but clothing also decreased in percentage. Unless higher percentages had been achieved by vehicles and other metal industries, the total decline would have been sharper.

The considerable increase in the percentage for consumers' services in the Development Areas was principally explainable by expansion in catering and personal services, and distributive trades. Together, these rose to account for 24·5 per cent. of all insured persons against 18·6 in 1929. The pattern of change in the country generally was similar, but in this case the increase was smaller—to 28·7 from 24·1 per cent. In both the country generally and the Development Areas the flow of labour into the service industries was remarkable. In the Development Areas the increase was not far short of 200,000.

Details of the changes in the main economic categories are given separately for each Development Area in Table II.

TABLE II

PERCENTAGE OF INSURED PERSONS IN PRINCIPAL CATEGORIES OF ECONOMIC ACTIVITY

Development Area	General purpose goods		Investment goods		Consumption goods		Consumers' services	
	1929	1939	1929	1939	1929	1939	1929	1939
All	**27·3**	**18·6**	**27·2**	**29·1**	**18·7**	**19·2**	**26·8**	**33·1**
Scottish	8·5	5·7	29·4	28·2	31·6	29·4	30·5	36·7
North Eastern ...	31·6	22·6	29·9	31·4	11·4	13·1	27·1	32·9
South Wales ...	46·1	31·1	22·6	28·6	7·1	9·0	24·2	31·3
South Lancashire ...	39·6	27·9	21·0	24·8	26·1	26·7	13·3	20·6
West Cumberland	47·8	30·0	22·5	30·3	7·9	10·6	21·8	29·1
Wrexham	60·1	40·7	16·6	20·7	8·0	10·1	15·3	28·5

In 1929 the industrial structure of the various areas differed profoundly—the percentages ranged from 7·1 to 31·6 in consumption goods industries, 13·3 to 30·5 in consumers' services, 16·6 to 29·9 in investment goods industries and from 8·5 to 60·1 in general purpose goods industries. Between 1929 and 1939 these differences were reduced so that the Areas became somewhat more homogeneous. Moreover, the changes

were generally in a similar direction. Thus, all Areas except the Scottish one reported higher percentages for investment goods and consumption goods industries, while all recorded higher figures for consumers' services but lower figures for general purpose goods industries.

II. 1939-1945.

The impact of the war may now be assessed. This was considerable. To measure it more detailed figures which allow of a more accurate classification into principal economic categories are available. These also include agriculture.

During 1939-1945 the percentage share of Great Britain's total insured persons possessed by the Development Areas advanced from 15·53 to 16.62 per cent. The rise in the percentage of insured persons in employment was greater—from 14·52 to 16·33. These results were reversals of those taking place between 1929 and 1939.

Individual Development Areas fared differently during 1939-1945. If their 1939 share of Great Britain's insured persons is taken to be 100, the 1945 share of South Lancashire fell to 97·5, that for the Scottish area rose to 103·9, that of North Eastern to 112·7, that of South Wales to 113·9, that of West Cumberland to 116·6 and that of Wrexham to 125·0. There was, therefore, an appreciable redistribution between the various Areas. The direction of change was almost the opposite of that occurring during the pre-war decade.

The summary changes in economic activity between 1939 and 1945 are shown in Table III.

While the alterations recorded in the Development Areas were not outstandingly different from those recorded for Great Britain certain divergences call for notice. Most important is the fact that the war period caused less disturbance to the 1939 structure of the Development Areas ; the ratio of change was smaller for each type of activity. Besides, whereas in Great Britain the percentage of those engaged in investment goods industries rose and that in consumption goods industries fell, the reverse occurred in the Development Areas. As for consumers' services, in these the proportion fell slightly in Great

TABLE III

PERCENTAGE OF INSURED PERSONS IN PRINCIPAL CATEGORIES OF ECONOMIC ACTIVITY

	Development Areas		Great Britain	
	1939	1945	1939	1945
Agriculture	1·4	1·6	3·8	4·7
General purpose goods ...	18·7	19·4	7·6	8·0
Investment goods	32·1	31·6	24·4	25·8
Consumption goods	14·9	15·0	27·0	24·5
Consumers' services	32·9	32·4	37·2	37·0

Britain and rather more in the Development Areas. In both agriculture and general purpose goods industries there was an increase in Great Britain and the Development Areas; but it was less pronounced in the latter.

The smallness of the alterations in the figures for the broad economic categories masks the somewhat substantial changes in individual industries. Details of these are given in Table IV.

Although the alterations were similar in direction the modifications of the 1939 structure were not uniform. Thus, judging by the ratio of change, building and coalmining were compressed more in the Development Areas, and textiles and clothing and other manufacturing industries less. But chemicals, transport and metal goods were expanded more, and metal manufacture and shipbuilding less. Only in vehicles, general engineering and distribution were the alterations roughly equal. It is worthy of notice that those industries which in 1939 were important basic industries of the Development Areas, and more important as sources of employment than in Great Britain—namely, metal manufacture, shipbuilding and coalmining—contracted more or expanded less than in Great Britain. The opposite was true, however, of industries which in 1939 were less important as sources of employment than in Great Britain. For these contracted less

TABLE IV

PERCENTAGE OF INSURED PERSONS IN INDIVIDUAL INDUSTRIES

	Development Areas			Great Britain		
	1939	1945	Change	1939	1945	Change
Building and contracting ...	9·7	3·1	—6·6	9·0	4·7	—4·3
Distribution	14·6	10·9	—3·7	14·6	10·6	—4·0
Coalmining	17·2	14·4	—2·8	5·5	5·3	—0·2
Textiles and clothing	6·2	4·7	—1·5	11·2	7·4	—3·8
Other manufacturing ...	7·0	6·5	—0·5	12·4	10·4	—2·0
General engineering, etc. ...	5·8	10·2	4·4	5·8	9·9	4·1
Chemicals, etc.	2·3	6·3	4·0	1·9	3·5	1·6
Shipbuilding, etc.	4·9	6·6	1·7	1·4	2·4	1·0
Transport	6·5	8·0	1·5	5·7	6·8	1·1
Other services...	11·8	13·2	1·4	17·0	19·4	2·4
Vehicles, etc.	0·8	1·7	0·9	3·1	6·5	3·4
Metal goods	1·6	2·5	0·9	2·7	3·2	0·5
Metal manufacture	5·3	5·3	—	1·8	2·2	0·4

or expanded more—*e.g.* textiles, clothing, metal goods and other manufacturing industries. In effect, therefore, the pre-war high specialisation of the Development Areas was diminished.

How far were the trends of change in the separate Development Areas like those for the Development Areas regarded as a whole? The next table gives the necessary details.

Evidently, the alterations in the separate Areas were often not homogeneous. Nevertheless, there were more instances of similarity than dissimilarity in the direction of change. Again, no individual Areas departed widely from the trend for all the Areas taken together. But the war enlarged the individual differences between the percentages in the two categories to which the Development Areas were more heavily committed than Great Britain before the war began—*viz.*, general purpose

TABLE V

PERCENTAGE OF INSURED PERSONS IN PRINCIPAL CATEGORIES OF ECONOMIC ACTIVITY

Development Area	Agriculture		General purpose goods		Investment goods		Consumption goods		Consumers' services	
	1939	1945	1939	1945	1939	1945	1939	1945	1939	1945
All	**1·4**	**1·6**	**18·7**	**19·4**	**32·1**	**31·6**	**14·9**	**15·0**	**32·9**	**32·4**
Scottish	1·5	1·5	7·0	7·5	32·3	34·0	23·1	21·3	36·1	35·7
North Eastern ...	1·3	1·6	22·7	22·0	34·0	34·2	9·6	10·8	32·4	31·4
South Wales	1·1	1·6	31·4	31·7	30·1	26·6	6·1	9·4	31·3	30·7
West Cumberland ...	6·2	5·2	23·0	23·2	34·3	25·9	8·8	19·0	27·7	26·7
South Lancashire ...	1·4	1·1	28·2	26·1	24·3	25·0	25·7	26·9	20·4	20·9
Wrexham	4·9	3·9	36·0	45·2	22·8	14·6	8·9	11·0	27·4	25·3

goods and investment goods industries. This, it may be recalled, was a reversal of what occurred during 1929-1939.

III. 1945-1947.

What alterations took place during the post-war years 1945-1947? The share of the national total of insured persons recorded by the Development Areas declined from 16·62 to 16·07 per cent. This fall was less, however, than the rise occurring during 1939-1945—so that the 1947 figure was ·54 above that for 1939. The decline in the percentage of insured persons in employment was from 16·33 to 15·54. This decline also was smaller than the increase registered between 1939 and 1945; and in 1947 the Development Areas had 1·02 more than their 1939 percentage.

The separate Development Areas did not share equally in the fall recorded for all of them together, but the disparities were not distinctive. The Scottish Area and the three small Areas of West Cumberland, Wrexham and South Lancashire combined fell to 97·7 per cent. of their 1945 shares of Great

Britain's insured population. North Eastern fell to 97·1 per cent., and South Wales to 94·1 per cent.

Compared with Great Britain, the alterations of industrial structure were as follow :—

TABLE VI

PERCENTAGE OF INSURED PERSONS IN PRINCIPAL CATEGORIES OF ECONOMIC ACTIVITY

	Development Areas		Great Britain	
	1945	1947	1945	1947
Agriculture	1·6	1·4	4·7	4·3
General purpose goods ...	19·4	15·4	8·0	6·4
Investment goods	31·6	32·2	25·8	26·0
Consumption goods	15·0	17·7	24·5	24·2
Consumers' services	32·4	33·3	37·0	39·1
	100·0	100·0	100·0	100·0

With the exception of consumption goods, the alterations in the Development Areas followed the same direction as those in Great Britain. But the degree of change was dissimilar. Thus, only in general purpose goods and investment goods industries was it equal in ratio. Agriculture fell in greater ratio in the Development Areas, while consumers' services rose in smaller ratio and consumption goods industries changed in distinctly greater ratio. It is interesting that the two categories in which the Development Areas were most differentiated from Great Britain in 1945—general purpose goods and consumption goods industries—altered so as to reduce that differentiation in 1947.

More details of the changes are given opposite

A significant feature of this table is that all the industry groups in which the Development Areas much surpassed the country generally in 1945 fell appreciably in 1947—namely,

TABLE VII

PERCENTAGE OF INSURED PERSONS IN INDIVIDUAL INDUSTRIES

	Development Areas			Great Britain		
	1945	1947	Change	1945	1947	Change
Chemicals, etc.	6·3	3·4	—2·9	3·5	2·4	—1·1
General Engineering	10·2	7·5	—2·7	9·9	7·5	—2·4
Shipbuilding, etc.	6·6	5·3	—1·3	2·4	1·8	—0·6
Coalmining	14·4	13·4	—1·0	5·3	4·8	—0·5
Transport	8·0	7·6	—0·4	6·8	6·9	0·1
Metal goods	2·5	2·3	—0·2	3·2	3·2	—
Metal manufacture	5·3	5·2	—0·1	2·2	1·9	—0·3
Vehicles, etc.	1·7	1·6	—0·1	6·5	3·7	—2·8
Building and materials ...	6·7	11·8	5·1	7·8	11·4	3·6
Other services...	13·2	14·2	1·0	19·4	19·8	0·4
Distribution	10·9	11·6	0·7	10·6	11·4	0·8
Other manufactures	1·7	2·4	0·7	4·1	4·5	0·4
Textiles...	2·6	3·3	0·7	4·4	4·8	0·4
Clothing	2·1	2·5	0·4	3·0	3·3	0·3
Printing, etc.	1·8	2·2	0·4	2·9	3·5	0·6
Food, drink, etc.	3·0	3·2	0·2	3·4	3·6	0·2

chemicals, shipbuilding, coalmining and iron and steel. Even so, with the exception of chemicals, all fell in less ratio than in the country generally. In consequence, the Development Areas' disproportion in these lines was actually increased. Yet, while that was so, in almost all industries which in 1945 were proportionately less represented in the Development Areas, by 1947 the differentiation against them had been curtailed. These industries were textiles, clothing, vehicles, building and building materials, and other manufactures. This curious result occurred because, although the change in the

former group was unfavourable to the Development Areas, the absolute number of insured persons in it decreased by about 60,000. Since the total of their insured population rose by some 230,000, roughly 300,000 persons could be distributed amongst the industries in the latter group. The net effect of the changes taking place during 1945-1947, then, was to cause the industrial economy of the Development Areas to become less specialised and less lopsided. Against 32·6 per cent. of their insured population in chemicals, shipbuilding, coalmining and iron and steel in 1945, two years after the figure was down to 27·3 per cent. ; and against 19·6 per cent. in textiles, clothing, vehicles, building and building materials, food, drink and tobacco, printing and publishing and other manufactures in 1945, two years after the figure had risen to 27·0 per cent.

The detailed changes in the individual Development Areas are shown in the next table.

TABLE VIII

PERCENTAGE OF INSURED PERSONS IN PRINCIPAL CATEGORIES OF ECONOMIC ACTIVITY

Development Area	Agriculture		General purpose goods		Investment goods		Consumption goods		Consumers' services	
	1945	1947	1945	1947	1945	1947	1945	1947	1945	1947
All	**1·6**	**1·4**	**19·4**	**15·4**	**31·6**	**32·2**	**15·0**	**17·7**	**32·4**	**33·3**
Scottish	1·5	1·3	7·5	5·7	34·0	33·6	21·3	23·1	35·7	36·3
North Eastern ...	1·6	1·5	22·0	19·3	34·2	33·3	10·8	13·3	31·4	32·6
South Wales	1·6	1·5	31·7	23·3	26·6	30·2	9·4	12·1	30·7	32·9
West Cumberland ...	5·2	5·1	23·2	16·7	25·9	27·8	19·0	24·7	26·7	25·7
South Lancashire ...	1·1	1·3	26·1	21·8	25·0	26·1	26·9	29·4	20·9	21·4
Wrexham	3·9	3·8	45·2	29·4	14·6	23·9	11·0	15·7	25·3	27·2

The changes were distinctly more homogeneous than not—both in direction and for the separate economic categories. The similarity between the Areas was particularly clear in the

case of those categories which exhibited the largest degree of alteration in their percentages—consumption goods and general purpose goods industries. Further, the net effect of the alterations was to bring about greater uniformity between the individual Areas in the separate categories of economic activity.

IV. 1939-1947.

From what has been said above, it is clear that the effects of the war and the reconversion to peace-time production upon the Development Areas were substantial. That being the case, it is worth while to gather together the net results of the principal changes. It is also worth while to do this because both during the war and since official action has been taken to modify the structure and distribution of industry in the Development Areas. In the earlier stages of the war such action consisted mainly in siting a number of government war factories in the Areas together with some dispersal there of private factories ; in the later stages of the war—in and after 1944—private firms were encouraged to establish themselves in the Areas. In June, 1945, the Distribution of Industry Act was passed, and under this steps have been taken further to encourage private industrialists to locate their enterprises there.

The net changes in broad categories of economic activity may be derived from the figures given earlier.

TABLE IX

PERCENTAGE OF INSURED PERSONS IN PRINCIPAL CATEGORIES OF ECONOMIC ACTIVITY

	Development Areas			Great Britain		
	1939	1947	Change	1939	1947	Change
Agriculture	1·4	1·4	—	3·8	4·3	0·5
General purpose goods ...	18·7	15·4	—3·3	7·6	6·4	—1·2
Investment goods	32·1	32·2	0·1	24·4	26·0	1·6
Consumption goods	14·9	17·7	2·8	27·0	24·2	—2·8
Consumers' services	32·9	33·3	0·4	37·2	39·1	1·9

The summary outcome is that during 1939-1947 the Development Areas became less committed to general purpose and investment goods industries together—47·6 per cent. against 50·8 per cent. In Great Britain the percentage increased —from 32·0 to 32·4. On the other hand, the Development areas perceptibly added to their representation in consumption goods and consumers' service industries—from 47·8 to 51·0 per cent. But Great Britain suffered a decline in these from 64·2 to 63·3 per cent.

Such alterations had significance for the Development Areas. They meant, first, that by 1947 they had become considerably less dependent upon the fortunes of coalmining. Against 17·2 per cent. of the insured population in 1939, the figure in 1947 was only 13·4 per cent. Since the comparable figures for Great Britain were 5·5 and 4·8 per cent., the Areas had reduced their dependence relatively to the country generally as well. It is true that slightly larger proportions of the insured population moved into the other two basic industry groups to which the Development Areas were abnormally committed as compared with Great Britain—metal manufacture and shipbuilding and marine engineering. Nevertheless the rise—from 10·2 to 10·5 per cent.—is minor when set beside the fall from 17·2 to 13·4 per cent. in coalmining. In all three groups together the Development Areas reduced their dependence from 27·4 to 23·9 per cent.

Second, the lopsidedness of the 1939 industrial structure of the Development Areas was further reduced by a relative expansion of insured numbers in industry groups then thinly represented. Thus, the manufacture of metal goods came to absorb 2·3 against 1·6 per cent.; vehicles and aircraft 1·6 against 0·8 per cent.; chemicals 3·4 against 2·3 per cent.; clothing 2·5 against 2·0 per cent.; and other manufactures 2·4 against 1·5 per cent. Besides, there were small expansions in food, drink and tobacco, and printing, paper and pottery. Altogether, whereas these industries only accounted for 13·7 per cent. of the insured population in 1939, by 1947 the figure was 17·6 per cent. The comparable growth in Great Britain was less—from 23·7 to 24·2 per cent.

Third, greater diversity in the industrial structure of the Development Areas was brought about. The previous table is not sufficiently detailed to indicate this. The following table, which gives figures for certain separate industries, is more informative.

TABLE X

INSURED NUMBERS IN CERTAIN INDUSTRIES, 1939 AND 1947

	1939	1947
Metal industries not separately stated	19,620	36,350
Electrical apparatus	3,600	18,700
Chemicals, etc.	21,870	34,780
Electrical engineering	12,170	18,280
Leather and leather goods	3,430	8,390
Manufactures not separately stated	7,390	11,840
Food industries not separately stated	12,390	15,320
Carriages and perambulators	950	3,090
Watches and clocks	560	2,480
Textile industries not separately stated	4,330	6,120
Rayon and nylon yarn	470	2,050
Brooms and brushes	670	1,550
Brass wares	—	730
Dress industries not separately stated	440	1,190
Wood box	840	1,560
Scientific and photographic instruments	4,570	5,080
Toys and sports goods	570	940
	93,870	168,450

All these industries recorded increases in their labour forces. To some extent this merely involved an increase in the

output of goods already produced in 1939. To a greater extent however, it stood for output of new kinds.

More detail still is obtainable from a list of new industrial projects started during 1945-1947. A short selection from this list includes the following types of production which were new to one or other of the Development Areas.

Aluminium sheet and strip
Aluminium hollow ware
Radio equipment and telecommunications
Electric lamp
Omnibus bodies and motor vehicle accessories
Spring seating and upholstery
Electric motors, condensers, meters
Electric washing machines
Vacuum cleaners
Transmission belting
Accounting machinery, typewriters and office appliances
Pharmaceutical and agricultural chemicals
Canned foods
Razors and blades
Fibre board and insulating materials
Dental equipment
Pneumatic tools
Safety glass
Thermostats
Metal smallwares
Toys and sports goods
Abrasives
Rayon and nylon

Fourth, the extreme specialisation of the Development Areas in male occupations was reduced. Whereas in 1939 the percentage of insured employed women to men was 28·4, in 1947 it was 37·1. In the country generally, the comparable percentages were 38·5 and 43·9.

The changes occurring in the separate Development Areas during 1939 and 1947 may now be brought together.

Generally speaking, the direction of change was more similar than not. More significant, the differentiation between the Areas was distinctly reduced. This was true of each separate category. The effect was to make the Development Areas more homogeneous as industrial entities.

The factors influencing these results may be noted briefly. The smaller differences in the figures for general purpose goods were chiefly due to the fact that the contraction in coalmining

TABLE XI

PERCENTAGE OF INSURED PERSONS IN PRINCIPAL CATEGORIES OF ECONOMIC ACTIVITY

Development Area	Agriculture		General purpose goods		Investment goods		Consumption goods		Consumers' services	
	1939	1947	1939	1947	1939	1947	1939	1947	1939	1947
All	**1·4**	**1·4**	**18·7**	**15·4**	**32·1**	**32·2**	**14·9**	**17·7**	**32·9**	**33·3**
Scottish	1·5	1·3	7·0	5·7	32·3	33·6	23·1	23·1	36·1	36·3
North Eastern ...	1·3	1·5	22·7	19·3	34·0	33·3	9·6	13·3	32·4	32·6
South Wales	1·1	1·5	31·4	23·3	30·1	30·2	6·1	12·1	31·3	32·9
West Cumberland ...	6·2	5·1	23·0	16·7	34·3	27·8	8·8	24·7	27·7	25·7
South Lancashire ...	1·4	1·3	28·2	21·8	24·3	26·1	25·7	29·4	20·4	21·4
Wrexham	4·9	3·8	36·0	29·4	22·8	23·9	8·9	15·7	27·4	27·2

was greater the higher was the commitment to it in 1939. The somewhat fuller consilience in investment goods industries resulted from the widespread growth of general engineering and the greater diffusion among the Areas of shipbuilding and metal goods production. West Cumberland's exceptional decrease was caused by reduced iron ore mining and stone quarrying. The chief factor which reduced disparities in consumption goods was the widespread growth of types of production of little importance in 1939—*e.g.* clothing, vehicles and aircraft, leather goods—and the introduction of new types in all the Areas. The Scottish Area's expansions in these were offset by reduction in textiles. In all Areas except Wrexham and West Cumberland the rise of numbers in national and local government, transport, and hotel and boarding house services more than outweighed significant declines in distribution. In those two regions, the opposite occurred.

How far did the results of the changed pattern of industrial structure that were cited earlier as being applicable to the Development Areas as a whole apply to them regarded separately ?

The first finding related to less dependence upon coal-mining, but slightly more dependence upon metal manufacture and shipbuilding. Each Area reported contraction in coal-mining, and the proportionate decline was not widely dissimilar. It was least in North Eastern, greatest in West Cumberland. As for metal manufacture and shipbuilding, only one of the Areas most committed to these increased its percentage, and did so in both industries—North Eastern. Combined with the result for coalmining, North Eastern was the one Area which failed appreciably to reduce its reliance upon these industries.

The second finding referred to the further reduction of the lopsidedness of industrial structure in consequence of growth in metal goods manufacture, vehicles, chemicals, clothing and other manufactures. Detailed figures show that every Development Area made gains in this group of industries. Individual rises of percentages were 6·8 to 10·3, 4·9 to 12·3, 4·6 to 11·4, 5·5 to 20·4, 11·9 to 16·1 and 10·8 to 12·7. The last increase—the smallest—was that shown by the Scottish Area. Since the greater gains were made by the Areas having lesser percentages in 1939, the mitigation of lopsidedness due to this cause was the more distinctive. If to the above industries there are added food, drink and tobacco and printing, paper and pottery, the total percentage growths for individual Areas were 8·5 to 16·5, 10·9 to 16·6, 11·5 to 15·5, 12·8 to 28·9, 27·6 to 31·2 and 27·7 down to 26·4. Again the last figure—showing a decrease—was that for the Scottish Area. But as this Area was nearest to the figure for Great Britain in 1939 the decrease subsequently was of less significance.

The third finding named the greater diversity which was achieved in the Development Areas taken together. If the percentage figures for the seventeen industries cited in Table X are examined, in thirteen of these every Development Area recorded increases. Even though the rates of increase were different, this result indicates the greater measure of diversity—as represented by these industries—that was secured by each Area. The larger percentage increases were recorded by the three large Development Areas—Scottish, North Eastern and South Wales.

Fourth, and last, it was shown that, for the Development Areas as a whole, specialisation upon the employment of males was markedly diminished. The percentage figures of females to males for individual Areas were as follows :—

	1939	1947
All	28·4	37·1
Scottish	42·4	48·6
South Lancashire	34·3	42·7
North Eastern	22·5	31·6
West Cumberland	16·6	29·6
South Wales	16·2	28·2
Wrexham	11·8	21·9

The higher average figure for the Development Areas as a whole was due to the raising of the figure for each Area separately. Moreover, the differentiation between the separate Areas was less marked in 1947 than in 1939. By 1947, then, the individual Development Areas diverged less from the average figure for all, as well as from the average figure for Great Britain.

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An Agricultural Production Function for the United Kingdom, 1924 to 1947

An agricultural production function expresses the relationship between the physical volume of output and the various inputs employed. The processes of crop and livestock production are so different that it might be considered unreasonable to attempt to combine them into a single function. But, on the other hand, if they are considered separately there is the big problem of splitting up inputs between the two sides of the industry ; we do not know, for example, how the proportions of man-hours spent on crop and on livestock production respectively have varied during the period. It is thus necessary to construct functions for all agricultural production together.

There is the further problem of land. Land is a long-period capital good but is on rather a different footing to other capital goods and it was thought preferable to consider land as an independent factor of production.

Another difficulty is that climatic conditions, it is said, exert a considerable influence on agricultural production (particularly of crops) and it might appear desirable either to introduce a variable to take account of weather, or alternatively, to eliminate its effect. However, the influence of weather conditions is hardly likely to be systematic so that the effect can be considered as part of the error in the data which will be smoothed out in the relationship finally fitted.

A production function can be determined by applying multivariate analysis to spatial data or to time series. In this paper an attempt is made to estimate the course of agricultural production, and the inputs employed in the United Kingdom over the period 1924 to 1947 inclusive, and to determine the parameters of the most closely-fitting production equation of its type.

THE VARIABLES.

Production.

An index of the physical volume of agricultural production has been constructed as a weighted arithmetic average of production relatives (1946 = 100) for Wheat, Barley, Potatoes, Sugar Beet, Beef and Veal, Mutton and Lamb, Pig Meat, Milk and Wool, the weights being proportional to the gross value of output of the constituent items in the base year. It is to be noted that all crops used as fodder for livestock have been omitted from the crop production so that there is the minimum duplication in the index. The value of the index in any one year is the ratio of gross outputs in current and base years, substantially free of duplication, at base year prices. This is almost equivalent to the ratio of net outputs, free of duplication, at constant prices.

The index suffers from the defect common to all index numbers of production in that there is an apparent increase in production, though not necessarily a real one, when resources are moved from activities with a low gross output per unit to those with a higher value. The error is not likely to be very serious since the differences between, say, crops and livestock in this respect are almost certainly small. In any case it is doubtful whether sufficiently reliable data exist with which any correction for this effect could be introduced.

Land.

A series of relatives (1946 = 100) for the total acreage of crops and grass plus rough grazings has been calculated.

Labour.

The Agricultural Departments publish each year the total number of workers (male and female, regular and casual) employed on agricultural holdings. The figures, which relate to June, exclude the occupier and his children still at school and also in Great Britain his wife and domestic servants. To derive a series which adequately represents manpower, it is necessary to include estimates of the number of farmers in each year of the period. Relatives (1946 = 100) were then calculated from the numbers of workers plus farmers.

Manpower, itself, is not, of course, sufficient as a measure of the amount of the factor Labour. It is necessary also to take account of the number of hours worked. If it were possible to measure quantitatively changes in the quality of agricultural labour or in intensity of effort, these factors also would have been included. With regard to hours worked, we have no means of telling how farmers have varied and in the case of workers although there is full information about the hours of work in respect of which the recognised rate of wages is paid we know very little indeed about over-time or short-time. It is possible, however, to obtain some guidance on this question from a comparison of the wage-rates in operation and the data on actual weekly earnings collected by officials of the Ministry of Agriculture. These data, which are collected by inspectors carrying out routine inquiries with reference to the operation of the regulations concerning minimum rates of wages, are based on a very limited sample (of the order of one in 150) and have to be used with care. Another drawback is that this information is only available foi pre-war years ; we have no figures which would throw light on the course of actual hours worked in agriculture during and since the war. As far as the pre-war data is concerned there appears to have been little variation in total hours worked per week. If anything, the number of hours seemed slightly to increase and this would most certainly have been continued during the war, but this conclusion is so tentative and the evidence on which it is based so meagre that it was thought preferable to regard the factor of production, labour, as adequately represented by manpower and to consider the conclusions drawn from the analysis in the light of the possibility that hours of work had increased slightly during the period. It can be added in support of this procedure that Professor A. L. Bowley has arrived at the conclusion [1] that during the period in which we are interested little change took place in hours of work except for coal-mining and the introduction of a 44-hour or five-day week in some factories.

[1] "Wages, Earnings, and Hours of Work, 1914-1947, United Kingdom" by A. L. Bowley, *London & Cambridge Economic Service Special Memo.* No. 50, 1947.

CAPITAL.

By capital is meant here, strictly, capital which influences the physical volume of production so that working capital such as stocks of finished product, crops in process of production, or livestock being fattened is excluded. Farm buildings are also excluded. An index of the volume of capital in use, in this sense, was calculated as a weighted arithmetic average of relatives (1946 = 100) for (*a*) agricultural tractors, (*b*) agricultural machinery and equipment other than tractors, (*c*) horses, (*d*) store, breeding and milking (*i*) cattle (*ii*) sheep and (*iii*) pigs, the weights being proportional to estimated gross replacement value of the stock of each item in the base year.

The volume of agricultural tractors in use throughout the period was estimated from production and imports data combined with the numbers in use which were known for certain years; for 1924 and 1931 from the reports on agricultural output in those years, for 1939 from the Economic Survey for 1947 and quoted by Ashby,[1] for 1942, 1944 and 1946 from the censuses of machinery and equipment held by the Agricultural Departments. Annual production, in actual numbers, for agricultural tractors is available for the years 1937 to 1947. Prior to 1937 there is only information for Census of Production and Imports Duties Act Enquiry years, that is, 1924, 1930, 1933, 1934 and 1935. However, the gaps are small and were covered on the basis of a linear relation between the known census figures and an index of production of all commercial vehicles prepared by the Society of Motor Manufacturers and Traders, Limited. From the production series and figures of retained imports and exports of tractors manufactured in the United Kingdom, the additions to home use, for each year during the period, is directly calculated. By comparing these data with the known numbers in use for the years stated it is possible to arrive at a rough estimate of the volume in use at different times.

A broadly similar technique was used in the case of agricultural machinery and equipment other than tractors

[1] "Labour Organisation on Farms" by A. W. Ashby & J. H. Smith, *Journal of Agricultural Economics Society*, 1947.

except that estimation of the production in non-census years was based on linear relations between census data and the London & Cambridge Economic Service Index of production of the engineering industries. Agricultural machinery and equipment is necessarily a more heterogeneous group than tractors and the series of relatives will clearly be less reliable. The aggregation of the different types of equipment was effected on the basis of weight.

The number of horses used for agricultural purposes in the United Kingdom is published annually so that a series of relatives for this item was readily computed.

In the cases of the livestock series, cattle, sheep, and pigs the number being fattened was excluded so that, in each category, the series from which relatives were calculated related to store and breeding stock only.

Fertilizers and Feeding-stuffs.

The volume of manufactured feeding stuffs put into the agricultural industry is known for the war years and of fertilizers since 1941. For the remainder of the period consumption of bought feeds and fertilizers has been estimated from figures of expenditure on these items computed by A. L. Bowley [1] and J. H. Kirk [2] as part of their calculations of the net output of agriculture. The expenditures were deflated by the Ministry of Agriculture index numbers of prices of feeding stuffs and fertilizers in order to arrive at physical volume. A series of annual relatives (1946 = 100) was calculated from aggregate consumption.

The data are represented graphically in Figure 1. It is clear at once that the variation in Land has been so small during the period that any attempt to determine the marginal product of Land is likely, not only to give misleading results, but to distort the whole production function, and so this variable is left out of the analysis which follows. In other words, the factor of production, Land, is assumed to be constant.

[1] *Studies in National Income*, by A. L. Bowley, Cambridge 1944, p. 100.

[2] "The Output of British Agriculture during the war" by J. H. Kirk, *Journal of Agricultural Economics Society*, 1946.

THE DATA.

Year	Production	Land	Labour	Capital	Fertilizers and Feeding Stuffs
	P	*A*	*E*	*C*	*F*
1924	70·0	101·8	108·9	76·2	125·7
1925	75·1	101·8	109·1	78·0	118·0
1926	72·8	101·8	108·4	78·8	128·6
1927	76·1	102·2	105·8	79·9	124·1
1928	79·9	101·7	105·3	78·8	114·4
1929	79·8	101·5	105·4	77·8	118·4
1930	74·6	101·1	102·2	77·4	127·6
1931	72·6	101·0	99·3	80·5	143·6
1932	78·3	100·6	98·2	83·7	138·0
1933	82·5	100·6	99·2	85·4	147·5
1934	85·8	100·4	96·8	84·8	157·6
1935	84·9	100·2	95·3	85·2	166·4
1936	82·9	100·1	92·1	85·6	173·9
1937	80·1	100·0	90·9	86·7	157·9
1938	85·7	100·1	86·5	87·9	157·4
1939	88·4	99·9	87·6	88·7	151·2
1940	87·2	99·6	87·7	89·7	128·9
1941	86·7	100·2	90·7	87·7	96·5
1942	90·5	99·8	95·8	89·7	76·9
1943	97·3	99·8	98·8	92·9	73·9
1944	96·5	99·5	99·9	96·3	82·9
1945	98·3	100·0	100·4	98·4	95·6
1946	100·0	100·0	100·0	100·0	100
1947	85·4	99·9	100·3	99·7	101·6

THE ANALYSIS.

There is no unique way of determining a production function. All we can do is to decide which type to use and then estimate its parameters by applying multi-variate analysis to the available data. There are not many functions available because of the limitations to the methods of fitting and even of those that are amenable there is no means of telling beforehand which is likely to give the best fit. As far as prediction is concerned this does not much matter so long as the fit is good and the function stable since all functions for which this is true will give results fairly close together. But it is important to remember if the production equation is to be used as a basis for analytical derivation of other functions, particularly if these depend on high order differentials, that the choice of type of equation may have serious repercussions on the results.

The two main classes of function which could be used are polynomials linear in the original variables and in the logarithms, it being impracticable to consider surfaces of order higher than the first.

In the first type of equation marginal products of the inputs are all constants. That is, at all levels of employment the ratio of increment of product to increment of labour, other inputs remaining unchanged, is constant and similarly for capital, and for F.

With a double logarithmic function, such as Douglas [1-2] has used for manufacturing industry, on the other hand, marginal products would no longer be constants but proportional to average products. The ratio of the proportional increments or, what might be called, the factor elasticity of product would be constant.

The necessary conditions to be satisfied in the choice of production function are that it should be a good fit and the form should be consistent with what we know of the mechanism of the productive process. It is quite clear that a function which gives a constant ratio of the proportional increments of

[1] *Theory of Wages*, by P. H. Douglas, New York, 1934.

[2] "Are there laws of Production ? "P. H. Douglas, *American Economic Review*, 1948.

output to input is much more realistic than one for which marginal products are constant.

In this paper, therefore, the second type of equation, linear in the logarithms of the original variables, has been fitted although, as a check it was confirmed that with the first type similar values were obtained for marginal products.

Now there are certain drawbacks about the classical regression analysis applied to a problem of this kind. In the first place the method is only satisfactory at all if it is certain that only a single relationship exists between the variables. Secondly, the assumption is made that the independent variables are completely free from error and all the error in the data is concentrated in the dependent variable. Thirdly, if any of the independent variables are highly correlated it may be difficult to disentangle their effects on the dependent variable.

We cannot do anything about the third of these shortcomings but the modern extensions of the classical methods (for example, by Haavelmo [1-2], Tintner [3], Bartlett [4], etc.) deal with the first two by (*a*) determining the number of relations satisfied and (*b*) removing all error from the data before analysis. Unfortunately, there is no objective way of effecting (*b*) because we do not know what the "random" element is. In these circumstances some of the refined techniques which have been suggested hardly seem worth while, so that the method adopted here is simply to apply the analysis to five-year moving averages of all the variables, the assumption being that such values will be free from error and wholly systematic. It was then confirmed, without doubt, that only a single relationship existed between the variables included.

THE RESULTS.

During the last thirty years or so there has been such a revolution in method and advance in the application of

[1] "The statistical implications of a system of simultaneous equations" by T. Haavelmo, *Econometrica*, 1943.

[2] "The probability approach in economics" by T. Haavelmo, *Econometrica*, 1944.

[3] "Multiple regression for systems of equations" by G. Tintner, *Econometrica*, 1946.

[4] "A note on the statistical estimation of supply and demand relations from time series" by M. S. Bartlett, *Econometrica*, 1948.

scientific discovery in agriculture that the term : "The New Technique" has been used to describe the changes that have taken place. It is consequently necessary in attempting to construct a production function for the period 1924 to 1947 to take account of the increase in productivity associated not with the volume of any of the inputs but due to advancing knowledge, greater skill, more efficient management, improvements in technique, and so on. An effect of this kind is very difficult to measure at all precisely but fortunately this is not essential if it is reasonable to assume that the rise has been fairly regular. All that needs to be done is for a uniform residual trend to be included and the parameter associated with this in the regression analysis will indicate the magnitude of the influence on production. The form of trend adopted is an exponential function of the time which implies constant proportional change in production, due to this cause alone, per unit of time.

On carrying out a full analysis of the data it is found that, although there is quite sufficient variation exhibited by the variable for any resultant effect to be detectable, including F with the group P, E, C, and the residual adds nothing of significance to the prediction and so the conclusion is that the influence of bought Feeds and Fertilizers on Production is comparatively unimportant and can be neglected. Restricting the investigation to the four remaining variables the following production function is obtained

$$P \propto E^{0\cdot182} C^{0\cdot374} e^{0\cdot0103R}$$

R, the residual, being a time trend expressed in years.[1]

[1]The exponents of E and C here are reasonably consistent, allowing for differences in definition, with the results obtained by Tintner and Brownlee in their spatial study of the records of farms in Iowa. Tintner and Brownlee classified inputs as land (A), labour (B), farm improvements (C) (buildings, fences, etc.), liquid assets (D) (livestock, feed, seed, fertilizer, etc.), working assets (E) (farm machinery, including the farm share of the auto, breeding stock, equipment other than buildings and fences used in producing livestock, etc.), and cash operating expenses (F) (equipment repairs, fuel oil, feed purchased). The factor elasticities of output obtained were then (A) 0·3434, (B) 0·2364, (C) 0·0431, (D) 0·1729, (E) 0·0795, (F) 0·1118 so that, grouping all capital together, we can say, very roughly, the elasticities are land 0·3434, labour 0·2364, and capital 0·4073, values in fair agreement with the above. See "Production Functions derived from Farm Records" by G. Tintner and O. H. Brownlee, *Journal of Farm Economics*, 1944.

From this relationship can be calculated factor elasticities of output and marginal products of the inputs.
Thus

$$\text{Labour elasticity of output} = \frac{\partial P}{\partial E} \cdot \frac{E}{P} = 0{\cdot}182$$

$$\text{Marginal product of labour} = \frac{\partial P}{\partial E} = 0{\cdot}182 \frac{P}{E}$$

The interpretation of this is that if E increases by one per cent., P increases by 0·182 per cent.

$$\text{Capital elasticity of output} = \frac{\partial P}{\partial C} \cdot \frac{C}{P} = 0{\cdot}374$$

$$\text{Marginal product of capital} = \frac{\partial P}{\partial C} = 0{\cdot}374 \frac{P}{C}$$

which indicates that if capital increases by one per cent., product rises by 0·374 per cent.

The values obtained in the analysis suggest that there are decreasing returns to the variable inputs in agriculture in the sense that if labour and capital increase by one per cent., land remaining constant, output is likely to go up by something like 0·56 per cent. But it is important to remember that the sample is a very small one and, in consequence, the standard errors of the parameters, particularly that associated with capital, are comparatively large.

The standard error of the labour coefficient is 0·055 which gives a confidence region ("Student's" t for the size of sample considered being 2·120 at the 95 per cent. level) for labour elasticity of output from 0·065 to 0·299. In the case of capital, the standard error is 0·235 and so, assuming negative values are impossible, the corresponding limits are zero up to 0·872.

It is of interest to compare the values suggested by marginal productivity theory with the above results. If, in any year, the total manpower in the industry is 100 m., the average wage £w per annum, and the net output of Agriculture £100 N then one per cent. of the labour force can be said to earn $\frac{mw}{N}$ per cent. of product and, according to the

law of marginal productivity, the labour elasticity of output $= \frac{mw.}{N}$ The average value, throughout the period, on this basis works out to be 0·5. Similarly the average elasticity of product for capital, which is a much more uncertain calculation owing to the difficulty of estimating the capital invested in the industry and its earnings, is 0·1.

The residual trend is a 1·03 per cent. per annum increase in production, the magnitude of which would be disturbing statistically if there were not some confidence in the form of variation assumed. In fact this trend is correlated highly with capital so that with such a small sample it is difficult to disentangle the two effects. If the magnitude of the residual parameter were reduced, for example, the result would be to increase the marginal product of capital until ultimately, in the limit, if no residual trend at all were assumed there would be increasing returns, even to capital alone. It is difficult to check the reasonableness of the value obtained since almost any quantitative reflection of the effect will be influenced also by changes in other inputs. Thus, for example, the milk yield of a cow varies with the volume of concentrated feeding stuffs fed to the animal. However, it is of some support to point out that, according to Astor and Rowntree,[1] the average milk yield per cow increased from 550 gallons per annum in 1908 to 744 in 1935, which corresponds to a 1·01 per cent. per annum cumulative increase. Between 1935 and 1946 the corresponding advance appears to have been about 1·09 per cent. per annum although there is considerable year-to-year fluctuation, and certainly during this later period the figures follow fairly closely the variation in bought feeds used.

The fact that land and also feeding-stuffs and fertilizers are excluded means that any variation in production due to these factors, unimportant though it may be, is incorporated in the effects due to other variables included. As land decreased continuously throughout the period and the most marked feature of the variation exhibited by F is the huge drop in the

[1] *British Agriculture*: a report of an enquiry organised by Viscount Astor and B. Seebohm Rowntree, 1938, p. 260.

early years of the war, this means that the parameters associated with E, C, and, particularly, the residual effect due to advancing knowledge, etc., are not likely to have been over estimated. It is, indeed, surprising and unexpected that F can be omitted. The implication is that the agricultural industry is able, without very seriously hindering the gross product sold off farms, to adjust itself, from its own resources, to any changes in the volume of bought feeding-stuffs and fertilizers. There is, of course, a high degree of substitution possible between bought feeds and home-grown fodder crops. It has been estimated [1] that in pre-war days (1934-1938) 29 per cent. of nutrients (protein equivalent) and 23 per cent. of the starch equivalent were supplied by bought feeding-stuffs.

The comparison between values of P calculated from the production function and the observed figures can be seen from the following table and Figure II.

The fit is good, the multiple correlation coefficient being 0·993, and might have been even better if the end-points had been omitted. The disastrous weather and low production of 1947, particularly, pull down the moving average centred in 1945 and probably make fitting a little more difficult. Statistically, however, it would be unsound to leave out an awkward observation which did not seem to harmonize with the rest. In any case it is somewhat illogical to attempt to explain the deviations between observation and expectation, as there are several shortcomings in any known approach to a problem of this kind, but one of which could easily give rise to differences of this order, yet about the magnitude of which we have only the vaguest conception.

In the first place, the number of variables entering into the system has been very much reduced. Strictly there are several kinds of production, categories of labour, forms of capital, etc., and any attempt to represent one of these groups by a single variable necessarily introduces inexactness.

Secondly, Land has been excluded because insufficient independent variation is exhibited, the range being only two

[1] "Britain's Supplies of Feeding-Stuffs" by Norman C. Wright, *The Empire Journal of Experimental Agriculture*, 1940.

Centre of moving average	P Calculated	P Observed
1926	74·8	74·8
1927	75·6	76·7
1928	76·1	76·6
1929	76·8	76·6
1930	77·6	77·0
1931	78·8	77·6
1932	79·9	78·8
1933	81·0	80·8
1934	82·0	82·9
1935	82·9	83·2
1936	83·5	83·9
1937	84·3	84·4
1938	85·3	84·9
1939	86·2	85·6
1940	87·5	87·7
1941	89·2	90·0
1942	91·2	91·6
1943	93·2	93·9
1944	95·5	96·5
1945	97·4	95·5

per cent. This is justified, the effect on production of changes here being within the margin of error of estimate, but it does mean a rather restricted type of production function has been determined.

Thirdly, we do not know exactly what the true shape of the trend of advancing knowledge, etc., has been and the assumption of a different form for the residual term might have produced

other results. Confidence arises however from the fact that the value obtained is reasonable, a trend of this kind must, clearly be smooth, and any change in the hypothesis, or in the parameter associated with it, will, almost certainly, produce results which are less plausible if not completely anomalous.

Fourthly, the form of function chosen might not be, in all respects, the most suitable although it does seem the least impracticable of those that our fitting methods can handle.

Fifthly, although an attempt has been made to remove error, both of the above kinds and also errors of observation in the strict sense, from the data before analysis, even after five-year moving averages have been taken, this will not have been wholly successful.

Lastly, a semi-static model of this kind applied to time series may be inappropriate; a more dynamic equation involving lagged terms, if it could be handled, would be more realistic. Indeed it seems without doubt that there will be lag effects, production not reacting immediately to changes in inputs, although they may be small.

Some of these drawbacks, particularly the third, would not apply to a similar analysis of spatial data but the difficulty there would be to find units, whether countries, counties, or farms, which were comparable as far as agricultural production was concerned.

COMMENT.

Within the limitations indicated it is possible, very tentatively, to draw certain conclusions. If the results of the regression analysis are compared with the marginal productivity theory estimates, the suggestion is that labour earns more and capital less than their marginal products. That this is reasonable is borne out by the long-term tendency in the industry for capital to be substituted for labour. Further, since decreasing returns to the inputs operate on such a scale that keeping land constant and increasing labour and capital each by, say, ten per cent. only produces a rise in output of 5·6 per cent. it appears likely, assuming constant or increasing returns to scale, that the marginal product of land is high, probably of

such an order that maintaining other inputs constant and increasing land by ten per cent. leads to an increase in product of at least 4·4 per cent. If this is true, land must clearly earn very much less than its marginal product. This again is not unexpected; rents of agricultural land have been kept artificially low for many years. In fact it has been estimated [1] that gross rents declined between 1870 and 1929 by twenty-three per cent.

With regard to the future, the industry has been set very ambitious targets by the government. An extensive programme of capital investment has been undertaken and a considerable increase in the acreage under crops is envisaged. If conditions were such that the level of capital investment could not be maintained prospects for a large expansion of output would be jeopardised, but it is estimated that a substantial part of the new investment required will have been completed by 1949-50. As far as manpower is concerned, the expansion programme will require approximately six per cent. more workers which, on the basis of the results obtained, will make only a small contribution to the increased output. However, a continuance of the upward trend in technique and efficiency can be expected and considerable attention is being given to the provision of advisory services and the wider dissemination of existing knowledge.

[1] Astor and Rowntree, p. 389.

K. S. Lomax.

The University of Manchester,
January, 1949.

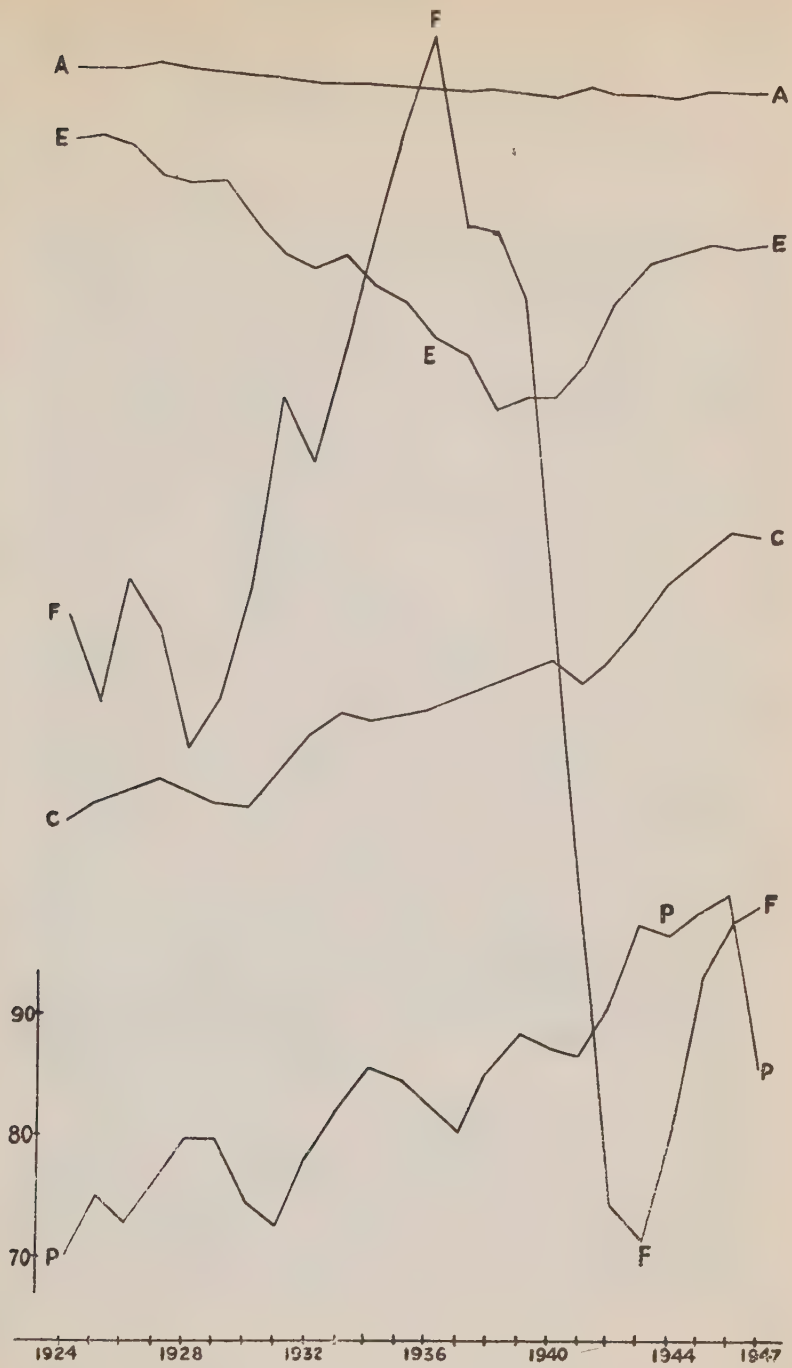

FIGURE I

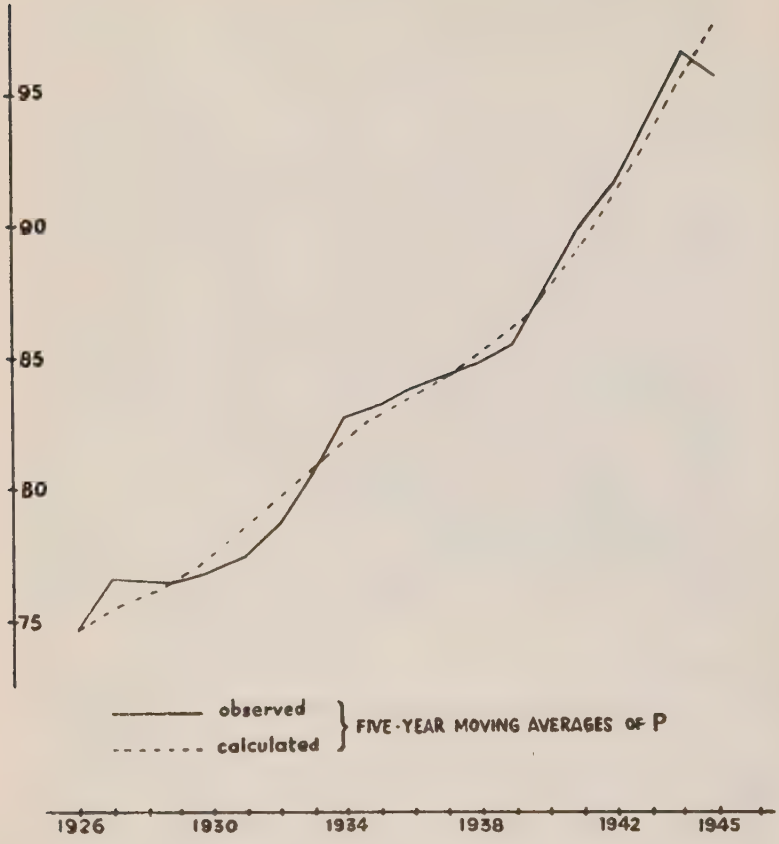
95
90
85
80
75
observed
calculated
FIVE-YEAR MOVING AVERAGES OF P
1926
1930
1934
1938
1942
1945

FIGURE II

Federalism and Finance

I.

Federalism is coming more and more to be regarded as the solution to one of the problems of our time ; the problem of reconciling the need for large units for economic and military organisation with the desire to retain the authority of the smaller units to which political allegiance is owed. The new constitution of India will be federal, a plan for the federation of the British West Indies is being prepared, and the possibility of creating a federal Dominion in Central Africa is under consideration. The Benelux countries have taken the first steps towards union, and in Western Europe as a whole the desire for federal institutions is widespread, though opinions differ as to the best way of achieving them.

The advantages of union for some purposes are clear. The increase of trade may be of general benefit, and the enlarging of the home market is helpful in so far as it enables industries to obtain the benefits of scale and makes possible the establishment of research units, universities, and other institutions which the individual countries might not be able to support. The federation is in a better bargaining position internationally, and in the field of defence unity is strength. At the same time it is often desired to retain much of the political authority of the several units, including control of a good deal of the legislative field. Countries which want a common tariff do not necessarily want a common divorce law or educational system. In these circumstances federalism seems the ideal solution. By its division of sovereignty it seems to achieve a happy compromise between the claims of centralisation and local control.

The disadvantages of this system of government are often overlooked. As long ago as 1885 A. V. Dicey pointed to the legalism that pervades federalism and to the inherent weakness of its government, and suggested that it was justified only as a stage on the way to unitary state. Subsequent experience in Canada and Australia suggests that there are other difficulties

which, bad in themselves, may also lessen the harmony of interstate relations and so hinder the development of unity. One is the difficulty of co-ordinating social welfare policies ; another is that of securing a system of public finance which provides each level of government with adequate sources of revenue ; a third arises from the fact that federalism creates special problems for the less developed areas of the union. These difficulties have taken different forms in Canada and Australia, and some account of experience in both countries is given below.

The problem of social legislation may be stated simply. If the policies adopted vary significantly from one state to the next, the chances are that the more progressive states will suffer. The unemployed and the unwell will be attracted to them, while industry will be repelled. The only practical way of achieving co-ordination is by a system of conditional grants paid by the federal government, and this, to work successfully, requires a degree of co-operation which has not been forthcoming in either of the Dominions. The states and provinces have tended to regard it as a means of diminishing their autonomy, while the Canadian Prime Minister declared in 1932 that the conditional grant system "might, if allowed to develop, become thoroughly destructive to economy with respect to the expenditure of the people's money." [1] This problem is clearly bound up with the more general one of financial relations.

In Section II of this article an account is given of the development of these relations in Canada, which illustrates the inherent problem of federal finance, and the difficulties which are likely to arise if subsidies by way of adjustment are determined by the need of the moment rather than based upon an agreed principle. In Sections III and IV the principles which have been suggested in Australia and Canada are discussed. In Section V an attempt is made to suggest the conditions of a satisfactory system of federal finance.

[1]Quoted in J. A. Maxwell, *Federal Subsidies to the Provincial Governments in Canada*, p. 219.

II. The Example of Canada.

It is always difficult in federal countries to secure a balance between the division of governmental powers and the division of the sources of revenue, and as the functions of government expand this balance becomes more and more difficult to maintain. In Canada this difficulty was evident from the beginning. While in the United States after 1787 both the federal government, with customs duties, and the states, relying on indirect taxes, were able to balance their budgets without difficulty, the federating Colonies of Canada derived, on average, 83 per cent. of their revenues from customs and excise duties,[1] and were thus all plunged into insolvency by the very act of federation.

At the Quebec Conference this situation was discussed, and estimates were prepared by Alexander Galt of the probable state of provincial budgets after federation.

	Revenue	*Expenditure*	*Deficit*	*Per capita Deficit* [2]
	$	$	$	$
Nova Scotia	107,000	667,000	560,000	1·70
New Brunswick	89,000	424,000	335,000	1·33
Canada *	1,297,000	2,260,000	963,000	·38

*It was impossible to divide the Canadian figures so as to form separate estimates for Quebec and Ontario.

It was clear that the only solution was the provision of subsidies by the Dominion government, and it was here that the provinces-to-be found the first real test of their unity. Would they accept the fact that their needs were, on a per capita basis, disproportionate? The fact that they would not accept this basis for grants, and that after 80 years of negotiation and compromise, some of them still do not accept it, has been the great stumbling block of Dominion-Provincial relations in the financial field.

The Quebec Conference eventually reached a compromise on this point. Nova Scotia agreed to reduce her expenditure

[1]Source: *Royal Commission on Dominion-Provincial Relations, Final Report, Book I,* Table 6.

[2]*Royal Commission on Dominion-Provincial Relations, Final Report, Book I,* p. 45.

by 40 per cent., which would leave a deficit of only 80 cents per capita. A subsidy on this scale would cover the deficit in New Brunswick's reduced estimate and was of course more than sufficient to meet the needs of Ontario and Quebec. Provision for Dominion subsidies of 80 cents per capita was accordingly included in the British North America Act, along with small additional subsidies of fixed total amount which were added in London.

The compromise, however, bore little relation to reality. The government of Nova Scotia, for instance, apparently had no intention of taking the very drastic steps necessary to reduce expenditure by 40 per cent., and in fact was spending rather more than the original estimate within a few years. It was enabled to do so by the fact that in 1869, as the result of a vigorous campaign for "Better Terms," its leaders had secured a favourable adjustment of the financial provisions of the Act. This initial breach in the agreement was followed in course of time by other adjustments designed to meet the claims of the provinces. In 1873 and 1884 the provincial debt allowances were increased by the Dominion government, formally because, it was said, the original allowances had been too low, but in fact as a way of granting better terms.[1] And between 1873 and 1887 financial claims were successfully made by New Brunswick, Prince Edward Island, Manitoba, and British Columbia.[2] Between 1887 and 1898 there was a spell during which no adjustments were made. But in this period a constitutional interpretation was made by the Judicial Committee of the Privy Council which was of the utmost importance in its bearing on provincial finance. In 1894 the Judicial Committee reached the much-disputed decision that the residual powers of the constitution belong normally to the provincial governments ; a decision which, in the words of a Canadian lawyer "completely perverted the function of the various branches of those sections (of the constitution) and gave to them as a

[1] J. A. Maxwell—*op. cit*, pp. 51-63.

[2] *ibid.*, pp. 64-93.

totality a reading that belied their plain terms."[1] The intention of the members of the Judicial Committee was to uphold provincial independence, as was virtually admitted by Lord Watson when he declared that "to attach any other construction to this general form . . . would . . . not only be contrary to the intendment of the Act, but would practically destroy the autonomy of the Provinces."[2] In view of the disunity that had been shown a few years earlier, when five of the Provinces had met at Quebec in order to express their grievances about federal policy and present their demands to the Dominion government,[3] this may have been a wise and necessary policy. Canadian writers who inveigh against the legal absurdity of the decision usually ignore the fact that, viewed politically, it was only one aspect of the general recession of the power of the Dominion vis-a-vis the Provinces that took place in the 1890's.[4] In the financial field, however, the effect of the decision was precisely the reverse of that which was intended. For it meant that the great majority of the new functions of government came within the jurisdiction of the provinces, who were soon faced with heavy demands on their budgets which they could not meet independently. The graph of provincial expenditure began to rise steeply as the social services were developed, with the result that piecemeal increases in the Dominion grants had to be made one after the other to meet the deficit of this province or that. It is unnecessary to repeat a story which has already been told.[5] Suffice it to say

[1] V. MacDonald, "The Constitution in a Changing World," *Canadian Bar Review*, vol. 26. See also F. R. Scott, "The Special Nature of Canadian Federalism," *Canadian Journal of Economics and Political Sciences*, vol. 13. W. P. M. Kennedy, "The Interpretation of the British North America Act," *Cambridge Law Journal*, vol. 8. W. F. O'Connor *Report to the Senate of Canada* (1939).

[2] *Tennant vs. Union Bank* (1894).

[3] See *Report of the Royal Commission on Dominion-Provincial Relations, Book I*, pp. 54 and 55.

[4] Other aspects were the recognition that the Lt. Governors of the Provinces were direct representatives of the King, and not of the Governor-General, and a decline in the practice of Dominion disallowances of Provincial legislation.

[5] J. A. Maxwell. *op. cit. Report of the Royal Commission on Dominion-Provincial Relations. Book I*, and W. Eggleston *The Road to Nationhood*.

that the events of the 1930's, when many provinces faced financial breakdown, led the Dominion government to appoint the Royal Commission on Dominion-Provincial Relations, whose comprehensive enquiries have been described as "a national diagnosis." The process of increasing the grants has continued, however, and in 1948 they were paid at the rate of $15 per capita, a flat rate which leaves the wealthier provinces in a very much happier position than their poorer brethren. The fact that the wealthier provinces have rejected all proposals to institute a new basis of payment which would take account of need has long caused discontent among the other governments. They hold, in effect, that they are bound by an inequitable agreement which has penalised Nova Scotia and New Brunswick over a period of 80 years, and other provinces rather less severely over somewhat shorter periods.

The claim that the agreement was inequitable deserves examination. Strictly, an agreement between provinces cannot be regarded as inequitable unless one or more of them were either acting under coercion when they signed it, or misled as to the conditions under which it would obtain. But in a process of constitution-making, factors cannot be isolated as if the parties concerned were merchants making a contract in a free market. There were, for instance, at least two political factors which led to the agreements being made under a certain amount of pressure. In the first place, finance was only a detail of an agreement which was to create a new nation. The motives of federation were not primarily economic, and the fear of American aggression, the anxiety of the British government for an agreement, and the general atmosphere of nation-building all joined to create an atmosphere which must have pressed heavily on the delegates who were haggling over the 80 cents grant. And the delegates from Nova Scotia, who suggested the compromise embodied in the Act, had a special motive for haste. Their government had no mandate for federation, and was aware of popular opposition to it. It seemed likely that delay until after the next election in Nova Scotia might lead to the return of a House of Assembly hostile

to the proposal—as in fact happened, eight months after the Act was passed.[1]

The case for inequity, however, rests mainly on the fact that the decision of 1894 changed the nature of Canadian federalism. The provinces agreed to the financial settlement in the knowledge that, under the constitution of which the settlement was to be a part, new functions of government would be the responsibility of the Dominion. The provinces would have to bear the expense of any expansion in the sixteen activities that were reserved to them, but that was all. It was only as a consequence of the 1894 decision that the new social services, and the immense expenditure that they entail, became the responsibility of the provincial governments, so that this decision really created the need for a quite new division of sources of revenue in order to balance the new division of responsibility. That no change was made is a legitimate ground for complaint—notwithstanding the fact that the Provinces, not wishing to admit that they owe their powers to the interpretation rather than the constitution, do not use it.

The weakness of the poorer provinces, of course, is that once they had entered the federation they had lost their only bargaining power. The most that they can do after this is threaten the secede, to which the experience of the American South is sufficient answer. In fact a half-hearted threat of this nature was made by Nova Scotia in 1886, but it availed her nought and was soon withdrawn. The provinces, lacking any real power to back their claims, then, have tended to rely upon political manœuvre, and to look upon any and every issue as a possible peg on which to hang a claim for better terms. The effect of this on the harmony of Dominion-Provincial relations is easy to see.

It has long been clear that the remedy for this situation is a new system of grants which will both benefit the poorer provinces, and do away with the need for political bargaining. The grants must be based, that is, on some firm principle which

[1] 36 out of the 38 representatives elected to the House of Assembly were anti-confederates.

will enable their calculation to be objective. Is it possible to find such a principle?

III. The Principle of Compensation.

There are two principles which have been recurrently suggested in federal countries. The first is that provinces should be compensated for the adverse effects of federal policies, and the second that they should receive grants according to their degree of "fiscal need." Each needs examination.

Claims for compensation have been made by several Canadian provinces, but the most thorough examination of the problem is that made by the Commonwealth Grants Committee in its first report, the *Report on the Applications made in* 1933 *by the States of South Australia, Western Australia and Tasmania for Financial Assistance from the Commonwealth under Section* 96 *of the Constitution*. The chief grounds for claim were the unfavourable effects of the tariff in those three States, and the extent to which they had incurred losses on development policies which, though undertaken by the States, were in the interests of the whole Commonwealth. In regard to the tariff, the western states of Australia are in a very similar position to the southern states of America and the prairie provinces of Canada. They have to pay more for their imports than they otherwise would because of a protective tariff of which the main benefit is felt by the industrial states, while they are unable to shelter their own infant industries from competition from the beneficiaries. In its Report, the Commission agreed that the Western States had suffered in this way. After some discussion of the particular industries, they concluded that : "the states with the largest proportion of unsubsidized export industry would bear a proportionately greater share of the tariff," [1] and they calculated that while for Australia as a whole unsheltered industry accounted for 34 per cent. by value of total production, in Western Australia the proportion was 59 per cent., in South Australia 50 per cent., and in Tasmania 38 per cent.[2] This burden would be partly compensated by the gain to the states from inter-state free trade, and it was found

[1] *Report*, 1933, p. 66. [2] *ibid.*, p. 67.

that this was "a very considerable advantage to Tasmania, quite possibly balancing the adverse effects of the tariff." It was less helpful, however, to the other two states. Concluding their appraisal of the effects of the tariff, the Commission stated that while the position of a state such as Western Australia was inevitably difficult, it was on the whole "as well off within the tariff wall of a federation of States with similar standards, *provided compensation can be given in some way for the injury done by the tariff.*" [1] The relevant factor, however, was the extent to which this injury was reflected in the financial position of the state government, and when an attempt was made to estimate this, with allowances for compensating advantages, it could not be shown that the states suffered any substantial net disability. There was, for instance, an appreciable gain from the redistribution of Commonwealth revenues, and there was, the Commission thought, an important though immeasurable advantage derived from the fact that the Australian exchange rates at that time favoured exporters of primary commodities.

It was clear that whatever the actual burden might be, this was not a suitable basis for the measurement of grants.

The claim for losses on the opening up of backward areas was no more helpful, for though it was agreed that in some cases the Commonwealth bore a degree of "moral responsibility," this had to be balanced by the fact that some of the state policies had been ill-conceived and badly administered, and neither of these factors is particularly susceptible to measurement in financial terms.

In the end, the Commission had to fall back on the actual insolvency of a claimant state. "The sense of community which is the creative factor in a federation would prevent the Commonwealth from allowing a State to become bankrupt, as long as it was assured that the assistance would be used to restore its financial position." [2] In brief, they concluded that while the moral basis, if the term may be used, for the payment of grants was the burden of federal policy, the actual basis could only be the financial position of the state concerned. "On the whole . . . it is probable that there is no State which

[1] *Report*, p. 71. [2] *ibid.*, p. 81.

could not maintain stable finance with the present distribution of Commonwealth revenue and expenditure, if it managed its affairs with prudence and restraint, and were not affected by influences of Commonwealth policy. If this be so, the ground for a grant should be the adverse influence of Commonwealth policy, and the simplest form of the issue would be the proof of a disability through Commonwealth policy, the assessment of the loss occasioned, and a recommendation for the sum so ascertained to be given . . . however, this is not possible. Experts agree that the excess cost of the tariff, which is the chief example of this type of disability, is not measurable at present. Such burden must be reflected, however, in the financial condition of the State." [1] And the Report went on to measure the needs of the claimant states, as reflected in their financial condition.

It is interesting to see that while the Commission has not changed its method of measurement for grants, it has in subsequent reports abandoned the original justification for them. The 2nd Report, published in 1935, first stated that only the tariff could have imposed serious disabilities, since the net effect of other federal policies was almost certainly favourable, and then went on to refute the "experts" of the first report by measuring these disabilities. Choosing Western Australia, as the worst hit state, the Commission balanced the excess costs of the tariff against the benefits received from Commonwealth revenue and its estimate of that elusive item, the benefit derived from the Australian exchange rates, and found that there was in fact a very slight net gain to the state, quite apart from the special grant that was paid to it. As a result the Commission shifted to safer ground. "The fundamental law for all governments is self-preservation. It is on this basis principle which cannot be argued that we put special grants." In fact, they declared : "The only ground for this assistance is the inability of the state to carry on without it." [2] And in all subsequent Reports the Commission has adhered to the principle of fiscal need.

[1] *Report*, p. 83.

[2] 2nd *Report*. pp. 36 and 37.

The truth is that the question of compensation is a political rather than an economic problem, and should be discussed in political terms. The claims are inadmissable because it would disrupt the politcal system to admit them. The federal government is not an agent of the state governments, responsible for achieving a nice balance between their interests. It is responsible to the people of the whole nation, and its actions must therefore be assumed to be in the national interest. In the fields over which it has exclusive control, in fact, the federal government is in the same position as the government of a unitary state, and is no more liable to compensate regional authorities for the adverse effects of its policies than the British government is to compensate the London County Council because, under the Distribution of Industry Act, it is encouraging industry to go to other parts of the country.

It is significant, however, that these claims, which do not arise in Britain or France, are recurrently presented in Canada and Australia. In Canada every province except Quebec has complained of injury from one federal policy or another.[1] In Australia three states have presented claims, while one of them, Western Australia, attempted to secede from the Commonwealth on the ground that its interests were neglected by federal policy. It is clear that the maintenance of provincial autonomy in some fields may encourage a narrowly provincial attitude towards even those fields which the provinces have agreed shall be controlled on a national basis. In a federal system, in fact, the forces making for the growth of political unity and administrative co-operation may be countered by circumstances which lead to provincial feelings of grievance and thus to a sectional approach to national problems. Of these circumstances financial difficulty experienced by the provincial governments is the most far-reaching in its effects.

In the case of the less-developed provinces a feeling of grievance is particularly understandable. A policy of encouraging industrial development by protection and other devices is not of direct benefit to these agricultural areas, and

[1] *Royal Commission on Dominion-Provincial Relations, Final Report, Book I*, p. 230.

they may well feel that they are less well off than similar areas within unitary states. The North of Scotland, for instance, has not developed with the rest of Great Britain in the last 50 years, but at least its people share fully in the benefits of the improved national services. Unemployment and health benefits, family allowances, and pensions are no less generous there than in other parts of the country, whereas in a federation, a similar province would probably not be able to afford services on the same standard as those of the more prosperous areas. In some respects, that is, federalism is an unhappy compromise for the areas less suited to development. If the people of such an area remain independent, they may be poor but they have the satisfaction of being in charge of their own fate. If they join in a unitary form of government they give up their right to separate political identity, but those who remain share fully in the improved national services that the nation achieves. But if they become a unit in a federation they cling to their identity, are encouraged by the political system to think of themselves as an independent unit, and yet lack the power to shelter local industry by tariffs, control the movement of capital, or take any of the other measures by which states seek to protect their standard of living. There are, of course, compensating benefits, and they will probably be better off in the federation than they would have been had they remained independent. Since there is no way of proving this, however, the tendency is for a feeling of grievance to emerge, and to express itself in protests, in claims for compensation, and in threats to secede from the union such as those made by Nova Scotia in 1886 and Western Australia in 1933.

Current events in the British Commonwealth suggest that this problem may not be properly appreciated. Just as Nova Scotia and Western Australia were manœuvred into their respective federations without convincing support from their citizens,[1] so Newfoundland is to join Canada on the strength

[1]For the position in Nova Scotia see above. In the Western Australian referendum on federation in 1900, the majority in favour was 25,109, but 24,517 votes of this majority came from people in the goldfields who had only recently arrived from the east. See G. Greenwood, *The Future of Australian Federalism*, p. 161.

of a vote of 78,408 out of a total electorate of 176,000. The present economic position of Newfoundland has been helped by the war, but it is a poor island, and there seems little reason to suppose that the budgetary deficits of the '30s will never return. Is it not likely that its people may then blame federation for their troubles, and claim compensation for this or that disability? In the British West Indies, too, it seems fair to say that the constitution will have many potential problems to meet. The levels of wealth of the islands are disparate, and it is easy to visualise sources of friction, while the chance that all parties would blame Britain for the difficulties of adjustment does not improve the prospects of successful co-operation.

IV. Fiscal Need.

In Canada, despite the long history of provincial claims in respect of real or imagined disabilities, the Royal Commission on Dominion-Provincial Relations (the Rowell-Sirois Commission) refused to be led astray by the question of compensation. They settled firmly on fiscal need as the basis on which special grants should be computed. Their terms of reference being very much wider than those of the Commonwealth Grants Commission, however, they did not merely suggest a new method of determining grants, but made recommendations which tackled the problem at a much more fundamental level. In the first place, they thought that the exercise of some governmental powers by the provinces was inefficient in itself. The relief of the unemployed was outstanding among these, and the Commission recommended that this function should be transferred to the Dominion by constitutional amendment. The levying of succession duties and of personal and corporate income tax was another, and it was proposed that the provinces should retire from these fields of taxation. No constitutional amendment was needed since the Dominion has the right to levy any form of taxation under Article 91 of the British North America Act. Even more important, perhaps, were the recommendations aimed at giving flexibility to the constitutional structure. "Co-operation

between the autonomous Governments of the Federal system has to-day become imperative," declared the Commission in their final summing-up,[1] and they proposed that the Dominion-Provincial Conferences should be regularised, should be held annually, and should be provided with a permanent secretariat. There were many fields in which co-operation was necessary. The provision of special assistance to a primary industry, for instance, was normally a provincial function. "But in the event of wide-spread disaster with which a Province is unable to cope without assistance from the Dominion, or in the event that the Dominion by such means as an exclusive marketing organisation has already established effective control of the industry concerned, the Commission recommends that the Dominion should assume direct administrative and financial responsibility rather than render indirect assistance by way of advances to the Provinces affected." The necessary division of governmental functions that is, should not be a rigid frontier, jealously guarded by each side. "The Dominion should be able to delegate any of its legislative powers to a Province, and a Province should be able to delegate any of its legislative powers to the Dominion," while the number of concurrent powers should be increased. And in one field a suggestion was made which opened up the possibility of developing co-operation through technical agencies, as has been done in the United States ; it was that a Transport Planning Commission might be established, concerned "both with planning transportation development in a broad way, and with facilitating co-operation between the Dominion and the Provinces in transportation matters."

In the field of finance a radical re-adjustment was proposed. The provinces were to renounce their right to levy income tax and succession duties, and the Dominion was to assume the entire burden of provincial debt. In return for the substantial relief provided by this assumption, the provinces were to give up all the subsidies which they received from the Dominion. The Report said of this that : "The abolition of the Provincial

[1] *Final Report, Book II*, Section G. All the quotations in this paragraph and the next are from this section.

subsidies will be in itself no inconsiderable reform, for their history is long and tortuous. The subsidies have been based on no clear principles and it has been impossible to say whether or not different Provinces have received equal treatment." The financial adjustment was to be completed by the payment to some provinces of "National Adjustment Grants," based on fiscal need, and to be calculated in the first place by the Royal Commission and subsequently by an independent Finance Commission which would advise the Dominion Government.

This brief outline of some of the recommendations does not pretend to be a summary of the Report. But enough has been said to make clear that the proposals of the Royal Commission amounted to something very like a fresh start for Canadian Federalism. The distribution of governmental powers was to be amended, and an important new element of flexibility incorporation in the constitution. Methods were adumbrated of bringing about new forms of co-operation between the Dominion and the Provincial governments, which could not but be to the advantage of all. And the tangled web of financial adjustment, which had so hindered the development of co-operative relations, was to be replaced by a new and straightforward system, which would both help the poorer and aggrieved provinces and take the fixing of grants out of the political arena.

In their financial suggestions the Commission proposed a scheme very similar to that adopted in Australia, which yet avoided some of the provisions which have led to controversy in the Commonwealth. Their aim was that the Grants should put each province in a position to provide the average Canadian standard of services, on the assumption that its taxation was at the average Canadian level. Nothing would be done to prevent a province either enjoying a lower level of taxation, at the cost of a lower standard of services, or enjoying a higher standard of services, if it were prepared to increase taxation accordingly. The Commission computed the grants, province by province, simply by estimating the deficit that would exist if each province were to provide, with its municipalities, the

average standard of services, were to spend as much on development policies as it had done in previous years,[1] and were to levy taxation of average severity. There is an important difference between this plan and the policy adopted by the Commonwealth Grants Commission. The Grants Commission, using as its standard the average of taxation and services in the three wealthier and non-claimant states, expects a claimant state to make an "extra effort" equivalent to 10 per cent. of its expenditure on social services, and has made a practice of adding to this figure if the state has pursued unwise policies or been extravagant in its administration. This provision has been adopted in the name of the principle of financial responsibility. The Commission is anxious that the grants should not encourage extravagance, and, no doubt, that the non-claimant states should not be able to suggest that they do. However, the result has been that the Commission has pursued detailed enquiries into state policies and administration which are hardly compatible with the unconditional nature of the grant. The later reports of the Commission contain many examples of penalties imposed or threatened on the grounds of what the Commission considered to be inefficiency or extravagance in this department or that state enterprise.[2] In fact, a provision designed to protect state autonomy appears to have had precisely the opposite effect.

However this may be, the Commonwealth Grants Commission has undoubtedly been successful in its main aims. "Its prestige," observes Greenwood, "has grown from year to year, and the impartiality which it has displayed in discharging a difficult task has done much to remove the issue of special grants from the arena of party politics." Its work, he concludes, "has enabled the federation to function with less friction than would otherwise have been possible." [3] Since the Canadian plan was more straightforward than the policy of the Commission has been, there is every reason to suppose that it would have been at least equally successful. And, when taken

[1] 1928-1931.

[2] See 6th, 7th, 8th and 9th *Reports*, also Greenwood, *op. cit.*, pp. 194-5.

[3] Greenwood, *op. cit.*, p. 211.

in conjunction with the other and more far-reaching proposals of the Report, it might well have brought about that "sane balance" between centralisation and decentralisation which, the Report declares, "is the essence of a genuine Federal system, and therefore, the basis on which Canadian national unity can most securely rest." [1]

There is, however, a constitutional difference between the Canadian and Australian systems which has proved important. In the Commonwealth, Section 96 of the Constitution states that : "the Parliament may grant financial assistance to any state on such terms and conditions as the Parliament thinks fit." No difficulty therefore faced the Commonwealth government when, in 1933, they appointed the Grants Commission to advise them on the principles on which Special grants should be paid to the claimant states. They were able to accept the Commission's advice without consulting either the claimant states or the three wealthier states whose citizens would have to bear the greater part of the burden.[2] In Canada, on the other hand, the Dominion subsidies are specified in detail in Section 118 of the British North America Act, which emphasises their finality by stating that : "Such Grants shall be in full Settlement of all future Demands on Canada." This clause has not prevented the grants being increased by Act of the Dominion Parliament, from the first adjustment in 1869 to the present day. In 1907 the correct constitutional procedure was adopted, and the new subsidies specified in an amendment to the British North America Act, but subsequent adjustments have again been made merely by the Dominion Parliament. While this unconstitutional method has sufficed for increases to the subsidies, however, it clearly would not do for a measure involving their abolition. The financial proposals of the Rowell-Sirois Report had to receive the approval of all the provinces. It was this hurdle which brought down the whole scheme of reform which the Report had recommended, and which the Dominion government wished to put into practice.

[1] *Final Report, Book II*, Section G.

[2] The citizens of all the states would contribute equally to raising the sum, but those of the non-claimant states would not benefit from its distribution.

The Report was discussed at a Dominion-Provincial Conference on 14th and 15th January, 1941, at which all the governments concerned put forward their views at some length. The crux of the matter, however, can be stated quite simply. The National Adjustment Grants which the Report recommended varied in amount from $8,000,000 a year for Quebec to nil for Ontario, Alberta and British Columbia. These three provinces rejected the proposals.

Other reasons were given for the rejection, but they were not, with one exception, of a fundamental nature, and it is impossible to escape the conclusion that the size of the grants was the crucial factor. The exception was the frank opposition of British Columbia to the thesis of the Rowell-Sirois Commission that no province should be left in a position in which it could only provide services of a considerably lower standard than the national average. "It may be accepted as axiomatic," said the Premier of this province, "that there are five economic and social units comprising the confederation of the Dominion of Canada . . . Each of these units is distinctive, and there is nothing to be gained and much to be lost in attempting to bring them to a common level. Everyone desires to see Canada strong and united, but this object cannot be achieved by way of a mechanization to establish a general Canadian average." [1] Quite apart from this, however, it is not really surprising that the wealthier provinces rejected the plan. Rousseau pointed out that there can only be a general will on questions which are general by their nature. In practice, it is almost always impossible to secure unanimous agreement to a redistributive measure. In Canada, where any considerable reform must begin with financial redistribution, which cannot constitutionally be brought about without agreement, the scales are heavily weighted in favour of the *status quo*. Before any conclusions can be reached, however, consideration must be given to the changes brought about by the War.

[1] *Dominion-Provincial Conference, Report of Proceedings*, p. 39. A much less statesmanlike example of sectionalism was the Ontario Premier's complaint that his province had no "representative" in the Royal Commission (of four members) after Mr. Rowell, the first chairman, had retired for reasons of health.

The most important of these was the withdrawal of the provinces from the income tax field. This was achieved by agreement in 1941, the provinces being compensated by payments equal to either their actual revenue from this source in 1940, or the net cost of servicing their debt in the same year. In addition fiscal need grants were offered if need could be shown, and were subsequently paid to five provinces. Since unemployment insurance had been federalised by constitutional amendment in 1940, an important part of the Rowell-Sirois Commission's recommendations was in fact put into practice.

The war-time tax agreement, however, were only valid for 12 months after the conclusion of hostilities.[1] The Dominion government had, therefore, to secure a new agreement if it were to continue to have exclusive rights in the income tax field, and in August, 1945, it called the provinces together to discuss its proposals for reconstruction. These proposals are explained and analysed by Professor Maxwell in his paper : *Recent Developments in Dominion-Provincial Fiscal Relations in Canada*,[2] and need not be set out here. It need be said only that there were three important changes from the Rowell-Sirois recommendations. The first, the introduction of proposals to enable the Dominion government to put counter-cyclical tax and public investment policies into operation ; the second, a scheme of conditional grants for social security and national health services ; the third, replacement of the assumption of provincial debts and the payment of comparatively small fiscal need grants by the payment of substantial subsidies on a per capita basis. This last proposal was less radical than the previous plan, but was still redistributive in so far as the wealthier provinces could obtain a greater yield per capita from income tax and death duties than the poorer

[1]It is interesting to note that Australia, faced with a similar problem, adopted a precisely similar measure ; *i.e.* income tax was federalised, states were compensated on the basis of previous years' revenue, and fiscal need grants were provided where needed. But the Commonwealth introduced this not by agreement but by legislation which made it virtually impossible for the states to collect income tax (see K. C. Wheare, *Federal Government*, p. 111), so that the problem of how to continue the measure after the war has not arisen.

[2]The original proposals are contained in the *Dominion and Provincial Submissions and Plenary Conference Discussions* (Ottawa 1946).

ones. Ontario and Quebec were the chief losers by this, and in the event, although the discussions dragged on for nine months, it was these two provinces which refused to accept the reconstruction proposals. Certainly in the case of Quebec this was not the only, or even the main, reason ; that province, with its different traditions and social structure, objected to the centralisation of power that seemed to be involved in the scheme as a whole. But the fact remains that it was on the Dominion government's refusal to agree to Ontario's demand for tax concessions that the conference broke up.

As a consequence the Dominion has had to abandon its plans for social security and public investment policies. In 1947, however, individual tax agreement were signed with all of the provinces except Ontario and Quebec, by which the province withdraws from the fields of income tax and death duties in exchange for a Dominion subsidy. The agreements are for a five year period.

V. Conclusion.

It may be concluded that there are three possible alternatives for a satisfactory system of federal finance. The first is that the division of the sources of revenue shall so correspond with the division of powers that both central and regional governments are able to finance their activities independently. In the long run this is only possible if constitutional amendment if fairly simple, in terms both of the legal process and of the willingness of society to view the constitution as a flexible statement of relations rather than a once-for-all contract. But even in these conditions it is unlikely that complete financial responsibility in this sense can be achieved in the modern welfare state. For as the state spends an increasing proportion of the national income it has to depend more and more on sources of revenue, such as income tax and death duties, which are most effectively controlled by the federal government, while the administration of welfare services is normally a task which can be most effectively performed by the provinces. The result is that transfer payments are almost inevitable.

The second alternative is for the federal government to subsidise the administration of these and other services by conditional grants. This method does not encroach upon provincial autonomy since the provinces need not take advantage of the offer unless they choose to, and it has the advantage of extreme flexibility. The federal government may use its discretion to favour both the poorer states, and those particular lines of policy to which it attaches most importance. Its greatest merit, however, is that it enables the federal government to insist upon similar policies in those fields in which, as pointed out above, some degree of uniformity of action is essential. The only disadvantage of this method is that it requires willingness on the part of the provinces to accept federal supervision of their administration, to make sure that the grants are used for the purpose specified. In the United States, where conditional grants play a vital role, this has not proved a barrier, and Messrs. Hansen and Perloff are able to write that : "Of no small importance is the fact that federal supervision, in connection with specific grants, has been an important element in improving state and local standards of administration." [1]

The third alternative is a system of unconditional grants based on fiscal need, as has been adopted in Australia. This meets the objection of those who hold that federal inspection is a denial of provincial independence, and leaves the provinces free to develop services as they think fit, while ensuring that all have the means to provide a reasonable standard. On the other hand, this method does not enable the federal government to use financial assistance as a means of co-ordinating provincial policies. By reducing the inequality of provincial revenues, of course, it facilitates voluntary co-operation between them in adopting similar schemes, but there always remains the possibility that this will not take place. In Australia it was largely the failure of the states to co-ordinate their policies in this way that led to the federalisation of social insurance, health services, and family allowances in September, 1946.

[1] *State and Local Finance in the National Economy*, p. 123.

With this qualification, a system of unconditional grants may be the best method of upholding provincial independence.

It is clear, however, that such a system only works satisfactorily if the federal government has the power to determine the size of the grants, on its own account. The unanimous agreement of the provinces on this issue is almost impossible to obtain. Distribution by formula, such as the British block grants formula, is the most promising tactic, but is far less likely to obtain agreement when the number of units concerned is small, and their resources and activities widely varied, than when there are a large number of authorities all performing similar functions. If the federal government has to rely on general agreement to the grants, processes of barter and political manœuvre are likely to occur which may defeat the main object of the scheme.

The predicament of Canada is that she has none of these systems. The experiments with conditional grants were unsuccessful, largely because the provinces would not accept federal inspection. This led the Rowell-Sirois Commission to recommend the adoption of the third alternative, a system of fiscal need grants determined by a standard and fairly simple calculation. But the Dominion lacks the constitutional power to institute such a system without general agreement, and this was not forthcoming. In 1945 the Dominion made proposals which reverted to the conditional grant method, but these foundered on the same reef.

The truth is that Canada is bound by a constitution which is unduly rigid in the field of finance. A constitution is a statement of relations, both between the state and society, and between the various institutions of government. If these relations are formulated in terms of general principles, the application of which can vary according to the needs of the time, then society may benefit indefinitely from developing within the stable framework which is ensured. But if the constitution specifies details it is only a matter of time before amendment is necessary. In the case of Canada it is very understandable that the poorer colonies should have wanted a guarantee that the grants would be paid, knowing as they did

that Ontario and Quebec would for long command a majority in the federal House of Commons. But in obtaining this guarantee they bound the whole federation to the terms of a financial agreement that was soon out of date, and from which they themselves have subsequently been the chief sufferers.

The experience of the two Dominions does not suggest that federalism is anything like an ideal solution of current problems. Neither country has succeeded in combining provincial control of the social services with national co-ordination of policies. Neither country has been able to device a fiscal system which gives adequate sources of revenue to each level of government, and the transfer payments which have consequently been necessary have been the subject of intermittent dispute in Australia and almost continual dispute in Canada. Neither country, finally, has been able to convince its less developed provinces that their progress has not been severely handicapped by federal policies; and it is worth recalling that in the United States this problem was settled rather than solved by the Civil War.

There are circumstances in which federalism is the only compromise possible, but it stands a chance of being a happy compromise only if its inherent problems are squarely faced.

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The Concept of a Dollar Shortage

The breakdown of the policy of convertibility of currencies, provided by the Bretton Woods agreement, within a few weeks after its first test in 1947 undoubtedly caused some discomfiture among its erstwhile advocates. They had failed to appreciate the grievous state of the European economy, and had hoped, rather naively, to be able to emerge from the breakdown of the world economic system of 1938 simply by trusting to the "free" market forces. Fortunately, we did not have to pay the full penalty for their advice. The worsening of the international political situation resulted in a reconsideration of U.S. policy. The rigid domatism of Mr. Cordell Hull and Mr. Clayton was superseded by the more flexible approach of General Marshall and his advisers. A catastrophic fall in the standard of life and shrinkage of world trade was avoided.

Instead of admitting that they were wrong in their estimate of the magnitude of the disequilibrium in the world economy ; and that the elimination of that large-scale disequilibrium is a matter totally different in kind from the maintenance of equilibrium once it is attained, the economists of this school have now evolved [1] a theory according to which the acute demand for dollars "is merely a consequence of the fact that many countries are unwilling or unable for one reason or the other to live within their means. The propensity to spend and to inflate is so strong that the equilibrium in the balance of payments is constantly upset." [2]

The opposite view, *i.e.* that the rise of the United States through two world wars to a position of pre-eminence has created problems of an unparalleled character, is dismissed by a pained imprecation : "Evidently even in the land of Adam Smith, Ricardo, Marshall, and Keynes it is necessary to point

[1]Professor Haberler, "Dollar Shortage," in *Foreign Economic Policy for the U.S.*, ed. S. Harris, Harvard, 1948. Also Professor H. Ellis, "Dollar Shortage in Theory and Fact," *The Canadian Journal of Economics and Political Science*, 1948, p. 358.

[2]Haberler, *op. cit.*, p. 435. Identical views are expressed by Mr. MacDougall, "Britain's Foreign Trade Problem : A Reply," *Economic Journal*, 1948, esp. p. 92 ; also R. Harrod, *Are These Hardships Necessary ?* p. 42.

out again and again that trade is governed by comparative not by absolute cost !" [1] The possibility that the United States might undersell the rest of the world, if perhaps not "all along the line," over a sufficient range to create large-scale disequilibrium and impose unemployment, is regarded as rank heresy. It is argued, therefore, that inflation outside the United States should be stopped, and currencies devalued. "Equilibrium" would then be restored, and all would be well.

These complex arguments continuously switch between "pure" theoretical considerations and advice of the most highly practical character. Professor Haberler's "equilibrium" position, implicitly taken as an "optimum," discloses his view of the nature of the "world economy" which underlies his policy recommendations. It demands that a country's international payments (perhaps excluding capital flight [2]) should be made to balance without any direct controls over payments, without quantitative restrictions, and without "resorting to crude protectionist policies which, even if they succeeded in alleviating transitional strains, would do so only at the cost of permanently impeding the international division of labor and preventing the optimum allocation of resources." [3]

The proof which has to be furnished by Professor Haberler in order to establish his case is not whether the United States is able by retaliatory action to enforce convertibility and nondiscrimination. No one doubts that threats by the United

[1] Haberler, *op. cit.*, p. 436.

[2] Professor Haberler at some points gives the impression that even capital flight should be permitted ("Dollar Shortage," *op. cit.*, p. 430). He rejects the current balance as a measure of disequilibrium, insisting on what he calls the current balance minus "Equilibrating capital movements." It is, however, difficult to attach any significance to this emotive concept. Capital movements even from high to low interest rates areas might well be "disequilibrating," in the sense that they permit the maintenance or intensification of "disequilibria." They end in bankruptcy. In any case, whether or not a country's borrowing is "sound," so much depends on the creditors' subsequent policy as to rob the concept of "equilibrating" capital movements of all sense. Efforts to combine a "real" (barter) equilibrium analysis of foreign trade based on absolute factor immobility with monetary analysis (usually through a primitive quantity theory) in the hope of obtaining a truly dynamic theory are doomed to failure. Cf. below (2) on the importance of the path of readjustment.

[3] *Op. cit.*, p. 440.

States with her overwhelming military and economic power would be effective. *The problem is whether there is any ethical justification for the United States to use her power to enforce the rule of the unfettered price-mechanism on other countries.* An attempt will be made in this paper to show that the "model" which underlies Professor Haberler's policy recommendations has no conceivable relation to the world we live in.

I. "Equilibrium."

Let us first turn to the so-called long-run problem, *i.e.* disregarding, for the moment, monetary disturbances. We need not suspect Professor Haberler of having a physical maximum in mind when he discusses the goal of his policy : though the phrase "optimum allocation of resources" might be interpreted in the sense of the point yielding maximum physical product, in the sense that the same output could not be achieved with less effort or a greater output with the same effort. This concept has no economic relevance without reference to the distribution of the product. Should he think of maximizing some quantity of "utilities" or reaching "higher" "indifference levels" his difficulties are not less. Only if the following conditions were fulfilled—as they patently are not—would his optimum have any meaning (and we shall see not much meaning at that) :

(1) The original endowment of the units participating must be given, unchangeable by policy and *distributed optimally* (whatever that may mean). There must be full employment.

(2) There must be *given* tastes and technical knowledge in the widest sense of the term : they must not be subject to alteration by conscious policy involving international trade.

(3) Perfect competition must prevail within (and between) countries ; moreover, there must be free internal mobility of factors.

(4) The relatives between social and private costs must be proportionate and must not be influenced by risk

induced by foreign trade, *i.e.* comparative advantages must be large and unchanging.[1]

(5) Absolute international immobility of all factors including capital.

If these conditions are not fulfilled, "non-discrimination," commercial and monetary, would certainly not bring about an "optimum."

The first condition is certainly not fulfilled because—quite apart from any other difficulty—of the vast increase, during the war, of inequality of opportunity and means between the United States and the rest of the world. Professor Haberler confounds total and marginal conditions and neglects increasing returns. He also falls into the pit, against which Marshall warned, of failing to inquire into the distribution of original endowments. Indeed, one might say that almost any position which resulted from some discriminatory action turning the terms of trade of the United States against her would seem to fit the description of "optimum" better than that which would be brought about by "non-discrimination."

Moreover, and this is perhaps even more important, every single one of the other conditions required to justify Professor Haberler's "optimum" is violated in such a way as to load the dice cumulatively in favour of the United States. Thus the "optimum" of Professor Haberler and his colleagues must be rejected as false.

The concept of a *definite* "long-run-equilibrium," "towards which the system is tending," is itself subject to the gravest doubt. Professor Haberler, as we have seen, invokes high authority for, instead of proving, his dictum that it is *comparative* and not absolute costs which determine trade. If taken literally, this statement is obviously untrue. Comparative costs are unknown to entrepreneurs or governments conducting trade. They act (in the absence of direct controls) on the basis of *money prices* and *exchange rates*. It is wholly

[1]Quite apart from anything else, tariffs must not be imposed by the (temporary) surplus country against an increase in imports. There is no suggestion that the U.S. will not protect itself against depreciation. The I.T.O. certainly permits raising tariffs in this case.

illicit to assume that *money prices* are proportionate to *long run social real costs*. We know that private money costs are not proportionate to social real costs, and neither are prices proportionate to private money costs. Moreover it is illicit to assume that the free market system possesses an inherent mechanism which would restore proportionality between these three sets of variables, *i.e.* maintain full employment. Comparative costs might be said in any meaningful sense to determine foreign trade only if equilibrium in the sense of conditions (2)—(5) of the previous section has *already been reached* and *therefore no balances arise in the current account of any participating country*. But these conditions rob the argument of such relevance as it might still possess.

If a large-scale disequilibrium has arisen the concept of the eventual "equilibrium" position has no sense *independently* of the *path* taken. Its position will be co-determined by the path of readjustment. The path itself, however, is determined by absolute costs and monetary factors. Sustained inflation (or deflation) *e.g.* in a leading country will decrease (or increase) its competitive power and lead to structural changes (in comparative costs) which are likely to persist after the original disequilibrating effect is removed. In any case the enforcing of secondary readjustments by the restoration of the equilibrium of the country originally responsible for the disturbance might well depress opportunity costs to zero in other countries.[1]

There is no earthly reason, for instance, why a country could not "undersell another all along the line" [2] provided loss of reserves takes place on the part of the deficit country. The short-run elasticities, which seem extremely low (whatever they may be in the long period), will further impede readjustment, and may result in substantial lowering of the standard of

[1]Cf. my article "Exchange Depreciation and Economic Readjustment" in *Review of Economics and Statistics*, 1948, pp. 277-285, and J. J. Pollak, "Exchange Depreciation and International Monetary Stability," *ibid.*, 1947, pp. 173-82.

[2]Cf. my paper "The U.S. and International Economic Equilibrium," *op. cit.*, as well as Professor Samuelson, "Disparity in Post-War Exchange Rates," *ibid.*, p. 407.

life—through a worsening of the terms of trade—of those on whom readjustment is imposed, *i.e.* of the dominated, *i.e.* the weaker, economies.

The dominant economy in addition might cause a further and unnecessary lowering of the standard of life of its partners by imposing unemployment through employment effects inseparable from the price-movements,[1] income effects, which could have been avoided had different, more discriminatory means been used to restore the balance in international payments.[2] Any shock in the dominant economy by its multiplier effects and reactions is bound to cause fluctuations much greater in extent than the original cause. On the other hand the repercussions of "readjustments" on the surplus countries must not be underestimated. The richer a country, the more difficult it is for her to maintain monetary equilibrium, and the more dangerous shocks from the outside.

It is for those who from time to time exhume Say's theorem —having periodically busily interred it[3]—to prove that employment effects are not bound to arise and thus to effect the eventual position of "equilibrium." The growing uneasiness of the "orthodox" school is reflected by the fact that they have without exception refrained from recommending the observance of the "rules of the game" to the United States. According to orthodox canons the United States should now inflate (while the deficit countries deflate) until the resultant rise in incomes and prices helps to wipe out her surplus. In this way the extent of readjustment abroad would be lessened. The realisation that this procedure would in fact aggravate the European crisis (apart from inducing a domestic cumulative disequilibrium in the United States[4]) has begun to dawn.

[1] On the monetary mechanism cf. my paper "The International Aspects of Full Employment" in *Economics of Full Employment*, Oxford, 1944.

[2] Moreover, if Say's law is thus dropped at any moment through the "path of readjustment," as it must be, comparative costs become meaningless: for the "country" suffering from unemployment opportunity cost of a commodity sinks to zero or below.

[3] *e.g.* Professor Haberler, *The New Economics*, ed. S. Harris, p. 173.

[4] As in 1927: it is interesting to see how little reference is made nowadays to the colossal failure of the Norman-Strong attempt to master a disequilibrium similar to the current problem by orthodox methods.

Yet its corollary, that orthodox measures cannot minimise the lowering of the standard of life of the poorer countries, is still being fiercely resisted.

It has been argued that the cumulative processes induced by monetary "readjustment" are merely short-run phenomena and that if protective measures are introduced the long-run opportunity costs will rise by more than the gain from the employment effect. Whether or not this is so cannot be decided on general *a priori* grounds. It will depend on the extent of the long-run comparative cost differences and of the degree of unemployment. If unequal dynamic progress in two regions makes a periodic recurrence of the "shifts in equilibrium" probable and thus necessitates periodic readjustments, the opposite is more likely. Moreover, the risk of such recurrence itself will undoubtedly influence "comparative costs" retarding economic development—to the detriment of the weaker exporting nations. This was precisely what was threatening by the growing dominance and faster progress of the United States, if suitable measures had not been taken to bring about a better distribution of factor endowment between the Western countries, so gravely upset by the war.

The volume of trade—and this, *e.g.*, Professor Haberler seems to forget periodically—is the result not merely of cost differences (comparative or otherwise) but also of international lending. Lending will, moreover, tend to decrease comparative cost differences due to the inequality of original factor-endowment and thus tend eventually to reduce the *proportion* of trade to national income (though not necessarily its absolute volume). At the same time lending or grants will tend to decrease the inequality of opportunity in different parts of the world. *Thus loans or grants represent an alternative to discriminatory commercial policy as a means of reducing inequality.* Thus, *provided* grants and loans continue, a larger scope for non-discrimination would be compatible with the welfare of the less-well-endowed countries. But this conclusion is entirely beyond the models of the orthodox economists which in basic matters disregard capital (and other factor) movements (though mentioning them whenever convenient for their argument).

Thus we may conclude that the denial of the problem of a dollar shortage in the sense

(1) that discriminatory methods will lessen the required extent of readjustment of the weaker countries, and

(2) that discrimination will also produce a more equal international distribution of income and opportunity

are based on a model of the international economy which *a priori* excludes a discussion of the problem which the writers set out to investigate.

II. Bargaining Power.

Mr. MacDougall's further interesting attempt at demonstrating: ("Notes on Britain's Bargaining Power," *Oxford Economic Papers*, New Series, Jan. 1949) that "Britain's bargaining power as a large importer is not so great as is sometimes thought" is based on a similarly static and equally irrelevant model. His concept of exploitation represents an illicit application of the tools of equilibrium analysis to problems connected with extreme disequilibrium. Moreover, as at the margin of production the risks attached to the *extension* of the output of *primary products* is much greater than that attached to *manufactures* (because the supply of and demand for them is inelastic), the advantages of guaranteed markets and, therefore, of Britain's capacity to reduce the risks of primary producers cannot be measured by the percentage which Britain's imports represents in world imports of individual commodities or other countries' exports. In earlier writings (*Economic Journal*, March, 1946; March, 1947 and March, 1948) he maintained that the ratio of a country's total exports to exports to Britain was a fair measure of Britain's bargaining power. On being shown that Britain might be an overwhelmingly important market for certain products, the production of which might not be easily abandoned or switched (cf. my article Discrimination. *Bulletin of the Institute of Statistics*, 1948), he now undertakes a detailed investigation of the importance of the United Kingdom by countries and commodity markets. He calls countries from which Britain bought an appreciable

share "exploitable," and investigates the relation of their exports to their own national income. He concludes that Britain is vulnerable because she imports the bulk of the vital commodities from few producers and their exports are also consumed at home. On the other hand "non-exploitable" countries form a large proportion of the demand for manufacture.

Reciprocal purchase agreement permit the extension of production in both regions and eliminate the social costs involved in frequent readjustment. Nor must we forget that unemployment or depreciation forced upon Britain through "readjustments" will react on her suppliers. Deflation in Britain has the same effect as tariffs or quotas. The indirect social costs of the secondary readjustment might well be higher in both countries than concessions in price if such are demanded. Unless extreme mistakes are committed in the choice of the products, the losses involved in this "increased rigidity" are very much lower than the gains resulting from the riskless extension of production. *And it is this extension of production which is the crux of proposals to enter into reciprocal agreements.* Britain and Europe should try to avoid competing for a *given* world market but organise for an *increase* in the production of primary products and their exchange against manufactures. It should not be forgotten in this context that the inelasticity of demand and supply which characterise the markets of primary products is only a source of strength for the producers when there are scarcities. Abundance results in weakness. This fact is well understood and results in a tendency to restrict —or not to expand—production more than justified by objective criteria, for fear of overstepping the danger limit. The elimination of this fear is essential if the threat of continued shortages is to be overcome. But it could only be overcome by long-term guarantees. Mr. MacDougall's model is incapable of dealing with the problem. It is not so much an improvement of the terms of trade which should be aimed at, as a considerable increase in the volume of trade. This would result in mutual gain and not one-sided exploitation.

The period immediately ahead, when the extreme scarcities of food-stuffs due to the crop-failures in Europe have already been eliminated, and the increased competition of manufactured products has not yet fully materialised, will probably provide a good opportunity to prepare the basis for such long-term arrangements and dissipate suspicions of "exploitation." It is much to be hoped that the British Government will not try to "drive a hard bargain" to secure more advantageous terms of trade but use the opportunity to secure long term stability both for our exports as well as imports. At the same time measures should be taken to reduce as much as possible a head-on clash between the European exporters' manufactures by stimulating planned development, *i.e.* demand for their products. Mr. MacDougall's fears that a European regional system would impair the prospects for British exports and invite United States retaliation (*ibid*,) have not proved justified. It is to be hoped that the O.E.E.C. will learn from these lessons and experiences.

III. International Lending.

Unconditional miltilateral non-discrimination and convertibility—which underlie both I.T.O. and Bretton Woods—stand condemned as neither just nor workable under present conditions. They were unjust because they were nothing but a simple extension of the doctrines of classical welfare economics based on a closed and perfectly competitive economy to the infinitely more complex problems of the present broken world economy.

Even for a closed economy the whole analysis depended on the assumption that perfect competition and perfect foresight prevailed. Moreover, even perfect competition, the integral counterpart of the free-trade dogma, could not be demonstrated to bring about an optimum distribution or use of resources and output unless the distribution of wealth and income at the starting-point was "optional." That perfect competition is in any case a figment of imagination, and the conclusions based on it cannot be applied without modification to the real world, was ignored to a surprising extent. The distribution of wealth

even within a modern community possessing, and using to the full, all the paraphernalia of taxation and social services remains "unjust" even in the sense that inequalities exist which cannot be attributed to the need to stimulate output. If the conclusions of classical welfare economics cannot provide much guidance to domestic policy, still less do they apply in international relations, where there is no taxing power and any redistribution of international wealth and income can only come about by way of unilateral gifts and defaults or by a conscious modification of the terms of trade.

The "critics of multilateralism" are neither opposed to all "rules of the game in international relations, nor are they opposed to multilateralism, if multilateralism is not conducted on the basis of rules which tend to perpetuate the inequalities of opportunity in the world. They want new rules which would energise the world to faster and more equal progress. The tenets of the general equilibrium theory, based as it is on *given* means, known "indifferences," perfect knowledge, must not be used to discuss problems of growth and problems arising out of the economic contact of different civilisations at different stages of their technical progress. Should the richer countries consent—in proportion to their recovery and wealth—to promote technical and economic progress in the poorer areas systematically, through grants and (low-interest) loans, this would obviously represent the most desirable solution, far superior to a system of planned and graduated discrimination. But the latter, in turn, is preferable to the statism of general equilibrium. It would, for example, be unwise to try to achieve "balance" in the international payments of the United States by reducing her agricultural output to domestic requirements (or even below). It is clear that an agricultural revolution is taking place which will violently change value-productivity per man in agriculture, and the future "opportunity" cost relatives are wholly incalculable. Moreover the world at the moment *needs* the United States output and the domestic social consequences in that country of the "free" play of forces would be most undesirable. The alternative of

systematic loans, of grants, however, could not be considered practical politics prior to the Marshall-Truman declarations.

With the inauguration of the Marshall Plan a splendid beginning has been made for the reconstruction of a multilateral world economy. For its full fruition, however, certain permanent changes in the structure of the world economy will have to be envisaged and promoted.

The first and foremost condition of success is the clarification of the United States policy in diminishing the strain of readjusting the world dollar balance after the prospective end of Marshall Aid. This demands (*a*) unilateral United States tariff concessions to increase direct imports to the United States,[1] (*b*) toleration of a system of discrimination against the United States within Western Europe and in Western Europe's trading relations with other countries, *i.e.* the revision of the Havana Charter, (*c*) some indication of the United States domestic policy in maintaining demand at home, and (*d*) some indication of the magnitude of non-tied loans or grants to development areas. The task before Europe is to achieve not merely an overall equilibrium of payments but also a substantial excess of exports in order to resume investment (and repayment of war debts) so as to strengthen its supply position and enable it to obtain reasonable terms of exchange.

While the extraordinary dependence on United States and other dollar areas supplies must and will be reduced as European production recovers, there is no reason to aim at a bilateral *European* as against a *world* dollar balance, though limited unilateral tariff concessions by the United States would promote the attainment of a better equilibrium. All efforts should now be concentrated on proving to the United States that effective multilateralism will almost exclusively depend on her policy during and after Marshall Aid. If by international co-operation the United States balance of payments (incl. capital account) can be made unfavourable with non-European countries

[1]But cf qualification in the previous paragraph.

through extra-European development programmes and by special purchasing arrangements the markets for European manufactures increased, if a suitable stabilisation policy is pursued in the United States, effective multilateralism on a world scale would have been given a new chance. The *flexible* Marshall Aid technique, as contrasted with the grossly inadequate *fixed* quotas of the Bretton Woods institutions, will provide a firm basis for this second effort at international reconstruction. As long as there is—as there obviously *now* is—a chance of securing full United States participation in such a world-wide scheme *no* other, much less attractive, alternatives should be attempted as their immediate restrictive implications would be bound to cause disillusionment in the United States.[1] This view does not imply a retraction of previous criticism against Bretton Woods as unjustified, but represents an acknowledgment that circumstances and possibilities in the dominant economy, the United States, have changed.[2]

Unlike the case against monetary multilateralism, the case against non-discrimination is more urgent than ever before. There is grave danger that the United States help, instead of being dedicated to building up a viable regional unit, will be used to maintain strongly autarkic national units, whose position in a seemingly non-discriminating multilateral world will be so weak and unstable as to crumple at the first stress, whether caused by a reappearance elsewhere of cyclical fluctuations, or because of the steady unfavourable trend of the terms of trade.

Much educative work has to be done in this respect. We must obtain the consent and co-operation of the United States in the organisation of a strong European economic unit[3]—

[1]This is the case against the British Five-Year Plan submitted to E.C.A. Cf. my paper, "Britain, the O.E.E.C. to World Economy," BULLETIN, February/March, 1949.

[2]Cf. my critique of Lord Keynes' last article in defence of Bretton Woods, "The United States and the World Economy," BULLETIN, October, 1946, p. 322.

[3]Cf. "Discrimination," BULLETIN, July and August, 1948, and "The United States and International Economic Equilibrium" in *Foreign Economic Policy for the United States*, ed. S. Harris, Harvard, 1948.

which for a period *far longer* than Marshall Aid would demand consent by the United States to preferential arrangements both within Western Europe and between Western Europe and certain complementary outside territories. Yet even enlightened economists with obvious sympathy for the plight of Europe interpret this plea as a distrust of and hostility to United States prosperity.[1] Nothing is further from the intention of those who advocated a close economic co-ordination of Europe. What should be attempted in the interests of all is to prevent a *widening* discrepancy between the United States and the rest of the world and the tendency by the United States under the slogan of non-discrimination to secure a monopoly of, and prevent others from developing, industries with the greatest degree of increasing returns, which would inevitably result in this widening of the difference in the standard of life.[2]

[1] *e.g.* Professor S. Harris in *Foreign Economic Policy for the United States, op. cit.*, p. ix, and a review of this book by K. Hutchinson in the *New York Times*, 14th November, 1948.

[2] The present paper was completed in January, 1949, prior to the publication of Professor Henderson's interesting essay on "The Restriction of Foreign Trade." (*Manchester School*, Vol. XVII, No. 1, 1949). No modification of the argument in this paper is called for. Professor Henderson, unlike his less subtle and more ferocious predecessors, does not claim that devaluation and deflation, together with a return to a system of non-discrimination in the field of international commercial and monetary policy, would bring about an instant cure of all our evils. He concedes that "unilateral action" would worsen Britain's position ; that control of capital movements is justified ; that discrimination against the deflation-dumping of depressed countries is likely to alleviate instability in the world system. He even admits that restrictions on foreign trade are justified in the case of underdeveloped countries ; and he also sees the problems of the peripheries consequent to the rise of a dominant economy. He nevertheless clearly inclines towards the beauty of the price-mechanism and takes refuge in the general considerations of the so-called "equilibrium theory" which plainly indicate the way of "maximising" output. "A price system is rather good at revealing these rates of substitution (between pairs of goods) and in default of a price system we are left in almost complete ignorance."

So far so good. As Sir Hubert Henderson pointed out in his brilliantly witty address on the "Price System" (Presidential Address to Section F of the B.A. *Economic Journal*, December, 1948) no planner has proposed to eschew altogether its use which "is an inevitable outcome of money." Unfortunately Professor Henderson at times does not remain entrenched in this field of general principles to which economists are entitled to call attention. He boldly sallies forth into concrete and untenable propositions. We are told, *e.g.*,

that: "The advantage of a price system is that it ensures that prices do represent opportunity costs. Thus, in a price system, the burden is just the same whether the rich consume domestic or imported luxuries to equal value, and the incentive to increase output to obtain these luxuries will be greater if the consumer is allowed free choice between them than if he is compelled to restrict himself to domestic products." Which "Price System" has Professor Henderson in mind? Surely not the price and exchange rate system which existed in the last thirty-four years!? Is he willing to assert that prices which, under conceivable conditions would now emerge from "free markets" would be formed on the basis of expectations of unit elasticity, and of a perfect knowledge of the future and a perfect ignorance or neglect of the actions of fellow beings; that money prices are proportional to social costs; that the "readjustments" in the productive structure called forth by the "free" play of demand, so confidently advocated, will result in no social cost in the shape of unemployment and increased risk? Moreover on all salient points (especially when discussing the merits of devaluation) his model system disregards the secondary repercussions of a change in an important market.

In his view a specific dollar crisis does not exist. If the British buy Egyptian cotton in spite of the fact that it is "dearer" than Amercian cotton and thus decrease the demand for, and the price, of American cotton, because we have no dollars, that means that we have in effect discriminated against the Americans. The fact that, if we *all* were to devalue and thus make American cotton dearer in terms of sterling, to accord with the position, and thus leave the American exporter no better off, does not in this view matter. Yet if we were to devalue sterling it is probable that the dollar proceeds of our sales to America would decline. Hence we would have to cut our imports, *i.e.* either deflate or to devalue more. Thus our demand for American cotton would shrink further, and the American cotton producer would be worse off as we could buy even less American cotton. It is true, of course, that American consumers of British manufactures, which have an imperfect market, would be better off because our prices in terms of dollars would fall. Given the tendency towards renewed disparity between agricultural and other incomes, especially in the case of the cotton growers, after a considerable period of prosperity for the farmers, this would represent no gain in welfare even in America. Moreover it would further increase the international inequality of income. The loss through devaluation would be reduced if many countries followed suit. But it was one of the objections against Bretton Woods that such devaluations cannot come *simultaneously* but only *seriatim*. The deflationary shocks to the system are therefore multiplied instead of being concentrated on the country whose currency in scarcest.

Prof. Henderson is equally rash to assert that a more even distribution of industry in the world "would also achieve minimum productivity": "if there are considerable economies in the regional concentration of industry, then maximum productivity will imply maximum concentration." Minimum and maximum for whom? For the "world?" Who is the "world?" With *given* and unchangeable resources, geographical concentration of industry might represent the "best" *technical* solution. Even then it certainly does not represent an *economic* optimum for the poorer countries. And if we drop the assumption of given resources—and the problem of industrial

progress can really not be discussed in a static framework—this sort of approach is wholly inappropriate. Prof. Henderson should be careful not to apply tenets formulated on the basis of assuming increasing costs (perfect competition) and an optimum original distribution of factor endowment to the complex problems of commercial policy.

Britain is no longer so much to the fore in industrial activity that it can be unequivocally asserted that we should gain if we could persuade others to forgo the possibility of their economic progress on condition that we forwent our chances. Moreover the story of the Havana Charter showed the most probable outcome of such efforts : the underdeveloped and war-devastated areas were granted privileges while European exporters of manufactures were to have faced bereft of defence the blast of United States competition. And it would be foolish to imagine that any action could induce the United States to give up the protection of her agriculture and less efficient industry. Nor would there be any sense in such an effort : the contribution of the United States by way of loans and grants to the development of poor areas would justify the maintenance of these industries, even though they are "comparatively" less efficient. The classical theory of international barter does not give clues to the problem of capital export. Nor does it explain the advantages of long term agreements in securing stable expansion in international trade. Prof. Henderson, like Mr. MacDougall (cf. above), insists in regarding bulk purchasing exclusively as an attempt to reap undue monopsony advantages, instead of as a measure which secures *both* parties a beneficial reduction of cost. This is to miss completely what has made the system so attractive to primary producers.

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The Economic Recovery of Belgium

In 1947 and 1948 Belgium seemed to be a land of plenty, while Britain suffered shortages in every part of her economy. Several explanations of this difference have been suggested, and the purpose of this article is to examine the problem in the light of the available statistics.

I. Production.

It is clear that the difference cannot have been due to a more rapid recovery of production in Belgium. If we compare the indices of production for the various countries of Europe at the beginning of 1946, the United Kingdom stands out. Belgium was slightly better off in building, and quite well off in textiles, but far behind the U.K. in total production : see Table I.

TABLE I.

PRODUCTION IN THE 1st QUARTER OF 1946.
(Base 1938).*

	Industrial Production	Textiles	Chemicals	Iron and Steel	Engineering	Building and Construction	Agriculture †
United Kingdom	+ 1·0	—19·8	+39·5	+13·4	—14·3	—45·0	+ 6·0
Belgium	—23·0	— 1·5	—28·5	—12·0	—13·2	—33·0	—42·0
Europe without Germany ...	—20·0	—31·9	— 7·9	—16·5	—26·0	—31·0	—38·0

*Source : *A survey of the Economic Situation and Prospects of Europe, Geneva*, 1948. The figures are the differences between the indices and 100.

†Production in 1945/6, compared with 1935/8.

Great Britain reached full employment in industry before the rest of Europe, and her progress in 1946 and 1947 was, therefore, much less spectacular than that of other countries as Table II shows.

TABLE II.

INCREASE OF PRODUCTION FROM THE 1st QUARTER OF 1946 TO THE 3rd QUARTER OF 1947.*

	Industrial Production	Textiles	Chemicals	Iron and Steel	Engineering	Building and Construction	Agriculture †
United Kingdom	+ 8·0	+10·9	+ 6·2	— 2·4	+37·9	+31·0	0·0
Belgium	+25·0	+29·5	+44·6	+28·0	+41·6	+29·0	+14·0
Certain European Countries ...	+24·5(*a*)	+25·3(*a*)	+39·8(*b*)	+36·9(*c*)	+45·8(*a*)	+29·0(*a*)	+16·0(*a*)

(*a*) : France, Netherlands, Denmark, Poland.
(*b*) : Denmark excluded.
(*c*) : France and Poland only.

*Source : *Ibid.*

†From 1945/6 to 1946/7.

Even so, however, production in the U.K. was still, compared with 1938, superior to the rest of Europe, although the difficulties of reconversion were more acute in Britain than, for example, in Belgium.

II. Foreign Trade.

The main difference between the two countries was in their foreign trade policy. While Great Britain was increasing her exports and decreasing her imports, Belgium was doing exactly the opposite. This imposed a great strain on the British home market, and is the reason why Belgium luxuriated in plenty while everything was so scarce in Britain. Table III shows how commodities available for home use increased in Belgium, though production was smaller, while exactly the opposite happened in the U.K.

This policy of suppressing all kinds of shortages as soon as possible by importing heavily and reducing exports was, of course, the most direct means of rebuilding the economy. All countries have tried to do this, but the difficulty has been to finance the resulting gap in the balance of trade during the transition. Other European countries could not manage to do

TABLE III.

COMMODITIES AVAILABLE, IN MILLIONS OF U.S. DOLLARS OF 1938 VALUE.*

	Value of Output	Index	Imports	Exports	Commodities available for Home use	Index
United Kingdom						
1938 ...	9·378	100	4·161	2·277	11·262	100
1946/47 ...	10·111	108	2·975	2·380	10·706	95
Belgium						
1938 ...	1·559	100	765	724	1·600	100
1946/47 ...	1·467	94	945	445	1·967	123

**Ibid.*

this, but Belgium could, and was clearly right to pursue this policy. The only valid criticism that can perhaps be made is that she spent too much foreign exchange on consumer goods and too little on producer goods.

Actually, investment was low, but not much lower than in the U.K., as is frequently suggested. The data in this field are very imperfect, but estimates [1] put U.K. investment as a percentage of the national income at 13·5 in 1946, compared with 14·3 in Belgium, and at 18·2 in 1947 compared with 15·7 in Belgium. The U.K. was probably right, in its own peculiar position, to concentrate on a large investment programme even at the cost of shortage at home and of increased debt abroad. But in Belgium what was most important was to consolidate the monetary stability attained by M. Gutt's reform, and for this purpose it was all important to flood the domestic market with goods.

How was Belgium able to pay for them? The answer lies in abnormal invisible exports, and in favourable terms of trade.

[1]For the U.K. cf. The National Product before and after the war. *Institute of Statistics*, Oxford, 1948. For Belgium—National Income cf. Baudhuin, *Bulletin de l'Institut de Recherches Economique et Sociales*, University of Louvain.—Investment cf. *L'Economie Belge en* 1947. Ministere des Affaires Economiques et des Classes Moyennes.

III. Invisible Exports.

One important source of dollars in 1945 and 1946 was the reimbursement of cash paid to Allied soldiers. By agreement, Belgium had paid the American troops stationed on her territory, and when the Lend-Lease account came to be settled there was a substantial credit in Belgium's favour.

The Bank for International Settlements has published figures for invisible exports which show the relative position of Belgium.

TABLE IV.

INVISIBLE EXPORTS, SURPLUS OF EARNINGS OVER PAYMENTS.*

		£ million
U.S.A.	1938 ...	+ 429
	1946 ...	+ 311·9
	1947 ...	+ 322·8
U.K.	1938 ...	+ 232
	1946 ...	— 176
	1947 ...	— 226
Belgium	1938	
	1946	
	1947 ...	+ 104·2

*Cf. Bank for International Settlements. 18th Annual Report, Basle, 1948.

This shows for Belgium a figure of 104 million pounds, which represents, for a population of 8 million inhabitants, almost half the United Kingdom figure in 1938 and almost a third of the U.S.A. amount in 1947.

This large amount of foreign exchange coming up at the right time is the real "Belgian miracle." Belgium shares this happy privilege of an increase in invisible exports with the U.S.A., and to a much lesser extent with some small European countries—the Netherlands, Norway, Sweden, Switzerland, etc., while France and the United Kingdom have experienced the biggest falls.

Even so, Belgium still had a deficit on current account in 1947, estimated by the Bank for International Settlements at 5,500 million francs (roughly £32 m). This was covered by repatriating capital. It is estimated that the "repatriation of

capital and accumulated income"[1] which amounted to an annual average of £19·6 million in 1935-6-7-9, was as large as £65·9 millions in 1947.

There are some obvious reasons to account for this increase in the item: "Repatriation of capital and accumulated income." In contrast to Great Britain, Belgium was able to finánce the war expenditure without making any disinvestments abroad. The income which accumulated not only during the war years but also during the troubled period which preceded them, was repatriated in bulk after the stabilisation of the currency. This is one of the reasons why the early settlement of inflation has been one of the most fruitful measures of the Belgium Government.

These sources of foreign exchange are, of course, quite temporary and a decrease must be expected soon. But invisible exports have not the same economic importance for Belgium, as for the U.K., since before the war Belgium could pay for 95% of her imports with visible exports, whereas the U.K. depended on invisible income to pay for over 40% of imports.

IV. The Terms of Trade.

The other advantage which Belgium has had over the U.K. has been a considerable improvement in the terms of trade, which has made it possible to send out less exports in return for a given volume of imports, while the U.K. home market has been drained because the opposite condition has prevailed.

This difference in the terms of trade is due to the fact that prices have risen much more on the continent of Europe than they have in the U.K. or the U.S A., so that Belgium, for example is buying relatively cheaply from these two areas, and selling dear to other continental countries and to some overseas countries that are anxious to rebuild their economies rapidly

[1]For the figures of 1935-36-37-39, cfr. Baudhuin—*Histoire economique de la Belgique* 1914-1939. For 1947 cfr. Banque Nationale de Belgique. Before the war no distinction was made between income given by foreign investments and repatriation of capital. The distinction made now by the Banque Nationale de Belgique is still more or less arbitrary.

TABLE V.

TERMS OF TRADE, AV. JUNE-AUG., 1947.*

	1. Import prices.	2. Export Prices.	1 ÷ 2
U.K.	205	197	104
Belgium	291	400	73

*Sources : For the U.K., *Monthly Digest of Statistics*. For Belgium, *Bulletin de l'Institut de Recherches Economiques et Sociales*, University of Louvain. The Belgian figures allow for the depreciation of the franc. The base year is 1938 for the U.K., and av. 1936 for Belgium.

at whatever cost. Unlike the U.K., Belgium has not been acutely short of dollars, and has not therefore had to keep her prices in line with American prices in the hope of increasing sales to the U.S.A. E.R.P. should strengthen Belgium's position by enabling her to continue to ignore the American market, and so to maintain favourable terms of trade.

Nevertheless, as the sellers' market disappears, Belgium may begin to find herself in difficulties. Before the war the average value of iron and steel exports from Belgium was less than half that of exports from the U.K. per ton. To-day average values per ton are about equal. In particular, Belgian competition was based on lower wages. Belgian wages are still a little lower than wages in the U.K., but the margin has almost disappeared. The coal situation is even more serious, since the price of coal is now much higher in Belgium than in the U.K.

It has accordingly been suggested that the franc is over-valued in relation to the pound and to the dollar. It is doubtful whether devaluation would be helpful at present, since difficulties which Belgium has been experiencing in recent months seem to have been due not to high export prices but to the desire of most countries to reduce their imports of "inessential" consumer goods. The remedy for this, in the present circumstances, is an expansion of investment goods industries in Belgium at the expense of consumer goods industries.

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February, 1949.

The British Monopolies Act

The main purpose of this article is to compare the technique of attacking monopoly represented by the new Monopolies and Restrictive Practices Act of 1948 with the established American anti-trust legislation, and to consider whether the differences are likely to prove advantageous.

The differences are very substantial, and the principal ones may be enumerated as follows : (1) The elucidation of the facts is done not by a court but by a tribunal. (2) Its findings are referred in each case for Parliamentary action. (3) The method of enforcement is different. (4) Legislative prohibitions will apply only to trades specified by order.

I.

1. *The Tribunal.* A tribunal of investigation differs from a court in many important particulars. The most important is that no prosecutor appears before a tribunal. This is an enormous handicap. The members of a tribunal are judges, and as such they must be impartial, but if they are to act like judges during the investigation, the case will not be properly presented and pursued. Exactly this point was made by Lord Simonds when the House of Lords was considering the resolution to appoint the "Lynskey" tribunal last November. He had been a member of a previous tribunal, and had found the situation unsatisfactory : "Your Lordships will at once see two glaring defects in such a system, the first not so important but not negligible : that the Tribunal could cross-examine only with the material which had been already put before them in due sequence. That is very different from the procedure with counsel, who can rely, if they are well instructed, upon the surprise effect of information not yet revealed to the witness. But far more important was the difficulty, as anybody who has had experience will recognise, of cross-examining and appearing to be impartial. Truth lies often at the bottom of a well, and in the case of a reluctant witness the questioner must be severe to the point of harshness. In the case of an

evasive witness, from time to time, as my Lord Chancellor will know, guile must be met with guile, and the evasive witness led to the admission of a truth which he would fain conceal. Can a judge do that and appear impartial? Can he be harshly severe or compact of guile, and, at the same time, appear an even-handed figure of justice?" [1]

Exactly the same criticism has been made of the Federal Trade Commission in the United States, which is called upon in the same way to be both prosecutor and judge, in the cases which it originates.[2] One result of this has been that the U.S. courts rapidly came to treat the Commission's findings with scant respect. The functions of prosecutor and of judge are different, and when they are mixed together neither will be well done.

It is not yet clear to what extent the Board of Trade intends to help the tribunal in its role of prosecutor. The task of building up a case before it is ready for a tribunal is much more formidable than the drafters of this Act seem to have realised. In the U.S.A. anti-trust is a police matter. Detectives are sent to nose out evidence. Evidence is hard to find. Sometimes even those who have been damaged by a conspiracy are unwilling to assist. Documents are withheld, or destroyed. Clues must be thought about, and followed. Some one must organise the strategy of the case for months before it is in a state fit to go before a tribunal. The Anti-Trust Division in the U.S.A. has the necessary police powers, but still finds difficulty sometimes in dragging the facts into the light.[3] How is the Tribunal to succeed without such assistance? The Anti-Trust Division has now a staff of over 500 lawyers and economists, in addition to its administrative and police staff, to marshall its evidence and prepare its cases. Has the Board of Trade really realised the magnitude of the task it is setting the Tribunal?

[1] House of Lords Official Report, 28th October, 1948.

[2] See Henderson, G. C., *The Federal Trade Commission*. The Commission has no jurisdiction in cases under the Sherman Act; these go to the ordinary courts.

[3] For an excellent discussion see the T.N.E.C. monograph No. 16. *Anti-Trust in Action*, pp. 45-48.

A tribunal differs from a court also in that all the evidence before a court is given in public. Under the Monopolies Act, however, the tribunal is expressly permitted to decide for itself whether to take evidence in public. Such a matter should not be left to its discretion, since it cannot function properly if its evidence is taken in secret. It is important that all those who are interested in a case should know what evidence is being given, so that they can, if they so desire, come forward and rebut false or misleading evidence. The issues at stake are not private family affairs. They are public matters of widespread interest and concern. If enquiries are to be secret, it is unlikely that the whole truth will emerge from them.

2. *Parliamentary intervention.* Under the Monopolies Act, when the tribunal has reported, its report is laid before Parliament. If the tribunal has condemned the practices it has been investigating a competent authority may make an order forbidding these practices. But an order may also be made in defiance of the tribunal if the House of Commons resolves that the practices are contrary to the public interest. In either case a draft of the order must first be approved by both Houses of Parliament.

If Parliament really takes advantage of this provision, and debates these reports, as seems to be intended, then the prestige of the tribunal will soon suffer irreparable damage. For the parties involved in these cases will seldom accept either the tribunal's findings on the facts, or its opinion of the public interest. In the U.S.A. the findings of original courts have almost always been challenged by appeal; why should we expect the findings of a tribunal, sitting probably in secret, to be any more readily accepted? We have had a foretaste of what will happen in the reception accorded to the report of the Committee on the Distribution of Building Materials and Components. The findings of the Committee both as to the facts and as to the public interest were challenged by the interested parties as soon as the report was published, and no action has been taken on the report.

Members of Parliament will therefore be lobbied by constituents connected with the industry under investigation, and as both the trade unions and the trade associations concerned will probably wish to protect monopolistic or restrictive practices, there will be speakers for the industry on both sides of the House of Commons. Is it really desirable that the House of Commons should debate whether particular practices in a particular industry (*a*) exist, and (*b*) are desirable? The ascertainment of facts is a matter for the courts, not for the legislature, and Parliament should have no right to debate the facts found by a tribunal. The making of rules is the business of the legislature, but not the application of these rules to individual cases. The procedure chosen for the Monopolies Act denies to the legislature the making of general rules, and asks it instead to make and apply rules to each case, and this is surely not likely to be successful. Parliament is at its best when it makes general rules and leaves their interpretation in the light of particular circumstances to the judiciary and to the executive. If the making of orders under this Act ever becomes something more than a formal procedure, the Act will soon prove unworkable.

3. *Enforcement.* The Act creates no new civil or criminal offence. But if contravention of an order is alleged or apprehended, an interested party or the Crown may apply to the court for an injunction. Here most of the case will probably be argued again. First, was the order made within the terms of the Act? Secondly, does the order prohibit the acts the defendant is alleged to be committing or has he found a loophole in the order—*e.g.* started a new practice not precisely covered by the terms of the order, or varied an old practice slightly? And thirdly, is he in fact doing what he is alleged to be doing? If the framers of the Act chose this sort of machinery because they hoped to avoid litigation, they are doomed to disappointment. There will be as much litigation to challenge orders made by a competent authority as there would have been over the clauses of an Act of Parliament.

And how, in practice, will the Board of Trade secure enforcement? The American experience is that the value of such legal prohibitions depends primarily upon the size of the staff and the funds set aside for investigating alleged breaches of the law and bringing cases into court. The Monopolies Act sets up the tribunal which precedes the making of the order. But once the order is made, who is to police its enforcement? Is the Board of Trade proposing to build up the necessary staff? It has been suggested, at various times when the subject has been debated, that in Britain such legislation will "enforce itself"; that is to say that the mere publicity entailed in the tribunal's investigation and the making of an order will be sufficient to restrain wrongdoers. This is a pleasant idyll. But there are monopolies in this country which have been condemned in official reports at regular intervals over the last thirty years, and which have taken absolutely no notice of public criticism. Even in England the law will be disobeyed unless there are policemen standing by to enforce it.

4. *Scope.* The most important difference between the Monopolies Act and American legislation lies, of course, in the fact that each order will relate only to a very small section of industry. An order may, for example, prohibit the use of stop lists in the selling, say, of false teeth, but if the same practice exists in artificial eyes, artificial limbs, deaf aids, spectacle glass or any other medical aid, there must be a separate investigation and a separate order for each of these. To clean up the whole of industry the tribunal must make a separate report on each of thousands of commodities, Parliament must have thousands of debates, and Ministers must issue thousands of orders. If it can be shown that in cotton spinning one firm handles more than one third of the trade in x counts, the tribunal may proceed, and an order can be made; but in order to get at a firm in $(x + 1)$ counts whose situation is exactly similar, there must be an entirely different investigation and an entirely different order.

The tribunal is to have two full-time members, and a number of part-time members. Since the part-time members

are all exceedingly busy with other responsible work, the tribunal may meet perhaps one day a week, or allowing for holidays, perhaps forty days a year. At this rate how many years will it take to get through the first thirty-eight cases, which the President of the Board of Trade has told us are already on his list?

In the United States a practice prohibited by the law is automatically prohibited to the whole of industry. Why could not Ministers have been given power, after investigation, to prohibit certain practices to the whole of industry in the same way?

II.

Reluctance to make general prohibitions of monopolistic practices is based on two doubts: (1) doubt whether the law can be used effectively for this purpose, and (2) doubt whether in any case monopolistic practices should be prohibited.

The first reason for doubting whether the law can be used effectively for this purpose is unwillingness to leave it to the courts to decide what is monopolistic. There can be no doubt that this was a grave weakness of the Sherman Act: the law must state precisely what practices are prohibited. This weakness was remedied twenty years later by the Clayton Act, which named prohibited practices, in just the same way that orders under the Monopolies Act will do. The difference between British and American legislation will be not that the definition of the offence will be more or less specific, but only that each English order will apply only to one particular trade.

A second point, however, still arises. When one comes to name the practices that one wishes to prohibit, most of them are practices that are healthy, harmless and valuable in competitive conditions; they become dangerous only when used by monopolists—for example, exclusive contracts, refusal to sell to particular customers, or price discrimination. They cannot therefore be prohibited to industry at large. The Clayton Act met this difficulty by prohibiting such practices only "where the effect . . . may be substantially to lessen competition or tend to create a monopoly in any line of

commerce." This has worked tolerably well, but it is not wholly satisfactory, since it still leaves judges to try to determine the effects of economic practices, and the meanings of "competition" and "monopoly," which they are not very competent to do. The Monopolies Act, in effect, goes to the other extreme, and will prohibit such practices only after a special investigation of each trade. What one really wishes to do is to prohibit such practices only to monopolists, but not to leave the definition of a monopolist to the courts. The Monopolies Act already in effect defines a monopolist in section 3, in terms either of a firm's share of an industry's output, or of collusion, and there would be no difficulty in passing a general Act prohibiting to persons defined in section 3 of the Act, the practices defined in section 10, without the rigmarole of a tribunal to make separate recommendations for each trade.

A third point which is sometimes made is that if one proceeds by outlawing only specified practices it is difficult for the law to keep up with monopolists because the corporation lawyers are always one jump ahead in finding loopholes in the law. But then, this applies equally to income tax legislation, and not many people would suggest that income tax should be abolished solely because clever lawyers are always working out new ways through which a few clients may evade it. The law can be revised, and as it is revised, it gets harder to evade.

American experience now proves quite conclusively that, given adequate staff for enforcement, there are some things that the law can do very well. First, except in industries where the number of firms is very small, collusion can be detected and stamped out. The boycotts, stop lists, price agreements and quotas which are the stock-in-trade of British industry have disappeared in the United States from all but a very few industries where the number of firms is so small that they can rely absolutely on each other not to give the game away.

And, secondly, the law can prevent the large firm from bullying the small ones, by tying up suppliers or outlets, by exacting special rates, by engaging in local rate wars, and so on. It can also stop the large firm from extending its empire by buying up smaller rivals, though in fact the clauses of the

Clayton Act that deal with this were not well drafted, and leave many loopholes.

These two are substantial achievements. They cover the major part of the monopoly field, and the parts where it is most obnoxious.

What the law cannot do is to make competition effective in industries where the firms are very large and very few, for in such cases the necessary evidence of collusion cannot be traced.

III.

But the real reason why the Monopolies Act has been passed in this watery form is the fact that neither of the major political parties is convinced that competition should be preserved. There is not much doubt that a law can be framed which would drive monopolistic practices from all but a few corners of the economy. The doubt that remains is whether this is something that we should try to do.

There are three elements in this doubt. First there is the fear that competition must depress wages and profits to unbearable levels. This is easily disposed of. The general level of wages and profits depends not on the state of competition but on the state of employment. Both were depressed in the inter-war years because unemployment ranged between one and three million. Competition cannot affect the general level of earnings.

But it does, of course, affect the level in particular industries. Competition will depress earnings in one industry relatively to the general level if the supply of factors is excessive in that industry relatively to the demand, and earnings may remain very low for some time if the factors are highly specific and do not move rapidly to more profitable industries. In such cases the right remedy, however, is not monopoly, but a scheme to facilitate the more rapid transfer of resources. It may be desirable to keep prices up artificially for a time while this scheme is taking effect—and we shall come back to this—but the principal emphasis should be upon transfer.

The second element of doubt is whether competition does not lead to wastes in marketing the production. The answer is that it sometimes does, if the market is imperfect. There is then too little standardisation and too much advertising and salesmanship, and transport facilities may be wasted in cross-hauling. The case for competition is that it is a spur to efficiency, and that without it the rate of economic progress is reduced. But it is certainly true that there are cases where costs would be lower if there were fewer firms, or if they agreed to share the market between them and to reduce selling costs.

And thirdly, monopoly, in the sense of a single producer, or a very small number, is desirable where the economies of large scale production are substantial, and anything which prevents this concentration of production from emerging reduces the national income. This, curiously enough, is also a part of the case for anti-trust legislation, for it is frequently the restrictive practices of firms already in the market that prevent the really dynamic firm from emerging to full size and reorganizing the industry—consider for example the attempts that were made to suppress the young Henry Ford.

These doubts do not add up to a case against a general law to free the market of restraints ; they add up only to a case for permitting exceptions in a few industries after very careful scrutiny. The function of a tribunal should be exactly the opposite of that which the Monopolies Act proposes. Under this Act restrictive practices are freely allowed except in special cases investigated by a tribunal. Instead the law should be outlawing restrictive practices generally, except that any industry which considers itself to be suffering from severe excess capacity, or to be one where competitive marketing is notably wasteful, or to be one where economies of scale are overwhelming, should have the right to ask for exemption. Their cases might then be reviewed by an administrative tribunal, and if satisfied the Minister could exempt them from prosecutions for monopoly while taking at the same time full powers to supervise their practices, their prices, and their profits. If he exercised these powers fully, industries would hesitate before putting themselves into his hands, and

applications for exemption from the law would be correspondingly reduced.

IV.

The Sherman Act was passed in 1890, but in the first fifteen years only twenty cases were instituted under it; whereas 87 suits were filed in the single year 1940. The difference is one of attitude. In those first fifteen years the American Government, like our Board of Trade to-day, thought that anti-trust legislation could enforce itself, and that a small law and a small staff were adequate. The United States has learnt differently in fifty years' experience. The pity is that we in Britain should not also have tried to learn from their fifty years, and should instead once more be taking a broomstick to attack a tank.

In sum (*a*) the procedure of the tribunal is unsuited to the task in hand; (*b*) the intervention of Parliament is likely to frustrate the objectives of the Act; (*c*) the staff available will prove too small; and (*d*) the decision to proceed from commodity to commodity means that very little can be done. The first three defects could be remedied within the framework of the Act as it stands, but the last is a fundamental obstacle to any serious attack on the problem of monopoly.

W. Arthur Lewis

Manchester.

Statistics Relating to the North-West

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TABLE I.

CIVILIAN POPULATION.

	Thousands					
	Total		Total	Aged 18 and over	Aged 5 to 17	Aged under 5
	Towns with over 20,000 inhabitants		All Towns			
	1948 June	1948 Dec.	1948 July			
Total North West ...	**4,452**	**4,507**	**6,320**	**4,688**	**1,095**	**537**
Manchester Area ...	**1,303**	**1,306**	**1,675**	**1,254**	**279**	**142**
Manchester	698	697	694	514	119	61
Salford	177	179	178	130	32	16
Stockport	142	141	142	107	23	12
Stretford	61	62	62	47	9	6
Merseyside	**1,261**	**1,298**	**1,501**	**1,061**	**299**	**141**
Liverpool	768	796	775	536	163	76
Birkenhead	136	141	139	99	27	13
Wallasey	100	100	99	73	17	9
Southport	84	85	85	68	12	5
Bootle	68	70	148	103	30	15
Spinning District ...	**811**	**821**	**1,152**	**873**	**185**	**94**
Bolton	166	168	179	137	28	14
Oldham...	119	121	120	91	19	10
Preston	118	119	122	91	21	10
Rochdale	87	88	89	69	13	7
Bury	57	58	64	49	10	5
Weaving District ...	**322**	**327**	**495**	**385**	**72**	**38**
Blackburn	109	112	125	97	19	9
Burnley	84	85	108	84	16	8
Coal Chemical District	**318**	**321**	**698**	**505**	**131**	**62**
St. Helens	107	110	110	78	22	10
Wigan	85	85	108	79	20	9
Warrington	79	78	145	104	28	13
Fylde District	**234**	**229**	**353**	**277**	**53**	**23**
Blackpool	152	149	152	123	20	9
Southern Cheshire ...	**135**	**137**	**339**	**254**	**57**	**28**
Chester...	48	47	66	49	11	6
Furness Area	**68**	**68**	**107**	**79**	**19**	**9**
Barrow-in-Furness ...	68	68	67	49	12	6
Development Area ...	**192**	**195**	**377**	**273**	**71**	**33**

Source : Registrar General's Returns and Ministry of Food.

TABLE II.

INSURED PERSONS EMPLOYED AND UNEMPLOYED BY TOWNS AND DISTRICTS

	EMPLOYED[3]		UNEMPLOYED					
	1948[1] July	1948[2] July	1948 July	1948 Sept.	1949 January			
	Total	Total	Total	Total	Total	Men	Women	Juveniles
	Thousands		Number					
Total North-West ...	**2,255**	**2,782**	**51,973**	**52,530**	**60,203**	**44,411**	**13,491**	**2,301**
Manchester Area ...	**624**	**803**	**9,838**	**9,447**	**10,229**	**7,943**	**1,891**	**395**
Manchester	323	428	5,251	5,542	6,117	4,761	1,105	251
Salford	63	78	1,283	1,131	1,328	1,117	182	29
Stockport	44	58	972	906	943	696	220	27
Stretford	58	68	250	256	220	182	17	21
Merseyside	**506**	**613**	**25,848**	**27,093**	**30,765**	**23,826**	**5,821**	**1,118**
Liverpool	309	368	17,486	18,270	20,010	16,212	3,158	640
Birkenhead	45	55	1,908	1,966	2,312	1,894	344	74
Southport	23	34	753	853	1,307	1,013	280	14
Bootle	67	49	2,357	2,509	3,051	2,148	705	198
Spinning District ...	**449**	**543**	**4,424**	**4,347**	**4,438**	**3,432**	**837**	**169**
Bolton	69	83	898	875	849	682	159	8
Oldham	34	41	583	604	554	472	58	24
Preston	71	93	688	740	897	613	235	49
Rochdale...	45	55	181	196	200	146	41	13
Bury	23	28	160	143	156	131	22	3
Weaving District ...	**191**	**233**	**2,039**	**1,725**	**1,636**	**1,378**	**217**	**41**
Blackburn	47	57	439	410	375	327	34	14
Burnley	37	46	645	524	543	524	15	4
Coal-Chemical District	**243**	**281**	**5,276**	**5,251**	**5,340**	**3,220**	**1,809**	**311**
St. Helens	44	50	1,300	1,331	1,498	789	690	19
Wigan	37	45	1,321	1,264	1,120	873	188	59
Warrington	50	62	436	496	461	220	222	19
Fylde District	**98**	**126**	**1,857**	**2,067**	**5,111**	**3,254**	**1,729**	**128**
Blackpool	42	54	1,416	1,439	3,947	2,601	1,275	71
Southern Cheshire ...	**113**	**146**	**1,473**	**1,398**	**1,394**	**843**	**477**	**74**
Chester	36	51	704	602	611	395	187	29
Furness Area	**31**	**37**	**1,218**	**1,202**	**1,290**	**515**	**710**	**65**
Barrow-in-Furness ...	25	28	950	949	989	343	599	47
Development Area ...	**117**	**134**	**3,659**	**3,571**	**3,502**	**2,205**	**1,102**	**105**

(1) Old basis. (2) New basis. (3) Figures are provisional

Source : Ministry of Labour and National Service.

TABLE III.

VACANCIES FILLED AND VACANCIES OUTSTANDING BY TOWNS AND DISTRICTS.

	Vacancies Filled by Employment Exchanges				Vacancies Outstanding on Registers of Employment Exchanges			
	Weekly Average 36 weeks ended 19th January, 1949.				19th January, 1949			
	Total	Men	Women	Juve-niles	Total	Men	Women	Juve-niles
Total North-West ...	**12,204**	**7,337**	**3,670**	**1,197**	**59,105**	**15,812**	**25,002**	**18,291**
Manchester Area ...	**3,742**	**2,265**	**1,148**	**329**	**18,902**	**4,638**	**8,273**	**5,991**
Manchester	1,740	957	614	169	7,739	1,484	4,300	1,955
Salford	351	210	108	33	1,762	436	679	647
Stockport	273	160	81	32	1,751	307	578	866
Stretford	414	314	78	22	1,364	674	386	304
Merseyside	**2,846**	**1,435**	**1,028**	**383**	**5,543**	**1,430**	**2,620**	**1,493**
Liverpool	1,586	723	627	236	2,981	648	1,490	843
Birkenhead	329	192	87	50	625	178	224	223
Southport	126	54	58	14	412	35	207	170
Bootle	216	101	77	38	224	57	93	74
Spinning District ...	**2,210**	**1,462**	**614**	**134**	**18,709**	**3,358**	**8,080**	**7,271**
Bolton	340	220	105	15	2,885	413	1,269	1,203
Oldham...	215	125	60	30	2,520	141	623	1,756
Preston	391	262	107	22	1,668	526	529	613
Rochdale	244	179	57	8	2,224	433	884	907
Bury	111	79	26	6	950	260	465	225
Weaving District ...	**897**	**623**	**214**	**60**	**7,509**	**1,931**	**3,958**	**1,620**
Blackburn	263	173	63	27	1,602	376	905	321
Burnley	158	108	43	7	1,636	488	857	291
Coal-Chemical District	**1,210**	**744**	**290**	**176**	**3,808**	**1,854**	**914**	**1,040**
St. Helens	246	131	73	42	566	399	91	76
Wigan	163	85	53	25	557	118	328	111
Warrington	323	213	77	33	1,389	851	158	380
Fylde District	**622**	**373**	**202**	**47**	**984**	**440**	**355**	**189**
Blackpool	255	132	107	16	281	146	101	34
Southern Cheshire ...	**507**	**320**	**137**	**50**	**3,225**	**1,803**	**765**	**657**
Chester	171	94	61	16	452	214	166	72
Furness Area	**170**	**115**	**37**	**18**	**425**	**358**	**37**	**30**
Barrow-in-Furness ...	136	94	26	16	331	280	22	29
Development Area ...	**575**	**317**	**165**	**93**	**1,703**	**694**	**512**	**497**

Source : Ministry of Labour and National Service.

TABLE IV.

NUMBER OF INSURED PERSONS EMPLOYED BY INDUSTRIES. Thousands

	July, 1948	September 1948	January, 1949			
	Old (1) Scheme	New Scheme (2)				
	Total	Total	Total	Total	Males	Females
All Industries	**2,234**	**2,854**	...	...	...	...
Agriculture and Fishing ...	32·7	47·8	...	...	...	...
Mining	63·1	66·7	...	...	...	...
Non-Metalliferous Mining Products	37·4	40·5	40·9	40·0	32·2	7·8
Chemicals and Allied Trades ...	89·9	103·7	105·2	106·9	78·9	28·0
Metal Manufacture	30·3	33·2	33·5	33·6	29·3	4·3
Shipbuilding and Repairing ...	31·1	34·0	...	...	...	...
General Engineering	114·3	127·5	128·5	129·4	109·1	20·3
Textile Engineering	36·6	39·9	40·9	42·3	36·2	6·1
Electrical Engineering	33·7	38·4	38·6	37·9	28·1	9·8
Electrical Apparatus, Cables, etc.	56·7	63·3	62·0	60·5	36·0	24·5
Construction and Repair of Aircraft and Vehicles ...	95·3	105·8	107·4	108·1	96·0	12·1
Other Metal Industries... ...	49·7	56·0	56·2	57·4	39·3	18·1
Cotton Spinning	125·9	146·4	148·1	150·6	54·2	96·4
Cotton Weaving	94·7	109·9	111·9	114·7	37·2	77·5
Woollen and Worsted ...	9·4	10·4	10·5	10·8	6·1	4·7
Rayon and Nylon, etc., Manufacture	28·6	31·9	32·4	33·3	15·4	17·9
Other Textiles	29·4	34·3	34·0	33·9	12·2	21·7
Textile Bleaching and Dyeing, etc.	35·6	40·3	40·8	42·3	31·1	11·2
Leather, Leather Goods and Fur	12·7	14·6	14·7	14·5	9·9	4·6
Tailoring	42·6	49·7	50·2	51·2	12·9	38·3
Other Clothing	48·8	58·6	58·9	60·0	16·2	43·8
Food, Drink and Tobacco ...	92·6	107·8	108·1	107·0	56·8	50·2
Woodworking, etc.	29·9	33·6	34·6	34·9	26·8	8·1
Paper, Printing, etc.	54·5	62·8	63·9	64·4	40·5	23·9
Rubber	26·5	29·5	29·8	29·9	18·7	11·2
Other Manufacturing Industries	17·5	20·0	20·7	20·8	11·4	9·4
Building and Contracting ...	137·1	152·1	...	...	...	...
Gas, Water and Electricity ...	32·6	38·7	35·6	35·9	33·5	2·4
Transport and Communications	194·2	272·1	...	...	...	...
Distributive Trades	233·6	287·8	291·9	295·0	159·2	135·8
Insurance, Banking and Finance	9·0	50·4	52·3	51·4	33·2	18·2
Public Administration and Defence	110·8	172·6	...	...	...	...
Professional Services	53·6	137·0	138·0	145·1	52·2	92·9
Miscellaneous Services	130·6	223·8	222·3	215·7	58·7	157·0
Ex-Service Personnel	13·0	13·3	...	...	...	...

Source : Ministry of Labour and National Service.

(1) The figures in this column refer to persons insured under the Unemployment Insurance Scheme.

(2) The figures refer to persons insurable under the new National Insurance Acts, and are not comparable with those in the first column.

TABLE V.

NUMBER OF INSURED PERSONS UNEMPLOYED AND VACANCIES OUTSTANDING BY INDUSTRIES.

Number

	Unemployed				Vacancies Outstanding on Registers of Employment Exchanges			
	1948 July	1949 January			1949 January			
	Total	Total	Males	Females	Total	Men	Women	Juv'iles
All Industries	**51,973**	**60,203**	**45,914**	**14,289**	**59,205**	**15,812**	**25,001**	**18,392**
Agriculture and Fishing ...	551	933	810	123	147	91	7	49
Mining	597	669	655	14	635	497	15	123
Non-Metalliferous Mining Products	916	974	632	342	679	284	123	272
Chemicals and Allied Trades	1,579	1,445	1,068	377	1,673	1,130	227	316
Metal Manufacture ...	613	507	428	79	615	410	60	145
Shipbuilding and Ship Repairing	2,887	3,050	2,943	107	550	383	2	165
General Engineering ...	2,673	2,235	1,975	260	2,324	1,167	403	754
Textile Machinery ...	317	293	281	12	646	313	78	255
Electrical Engineering ...	406	443	336	107	681	352	193	136
Electrical Apparatus and Cables, etc.	885	787	507	280	829	131	544	154
Construction and Repair of Vehicles and Aircraft	1,746	1,612	1,487	125	1,501	894	180	427
Other Metal Industries ...	1,306	1,324	1,012	312	1,281	351	432	498
Cotton Spinning	850	739	477	262	12,544	953	6,297	5,294
Cotton Weaving	387	321	214	107	6,584	919	4,382	1,283
Woollen and Worsted ...	68	83	44	39	319	49	166	104
Rayon and Nylon, etc., Manufacture	177	168	108	60	897	140	513	244
Other Textiles	420	419	205	214	1,214	84	688	442
Textile Bleaching and Dyeing, etc.	257	272	240	32	739	197	233	309
Leather, Leather Goods and Fur	236	198	121	77	260	54	69	137
Tailoring	583	711	266	445	2,940	384	2,042	514
Other Clothing	1,864	986	581	405	3,002	73	1,996	933
Food, Drink and Tobacco...	1,859	2,181	1,106	1,075	1,343	146	629	568
Woodworking, etc. ...	786	849	665	184	644	270	113	261
Paper, Printing, etc. ...	456	629	404	225	1,098	176	300	622
Rubber	620	645	487	158	485	72	259	154
Other Manufacturing Industries	509	471	251	220	329	94	133	102
Building and Contracting...	5,499	7,446	7,417	29	3,042	2,676	46	320
Gas, Water and Electricity	348	425	405	20	286	219	33	34
Transport and Communication	6,453	7,382	7,146	236	1,458	1,047	119	292
Distributive Trades ...	3,461	5,076	3,140	1,936	3,674	472	1,004	2,198
Insurance, Banking and Finance	300	401	250	151	308	122	94	92
Public Administration and Defence	3,848	4,014	3,345	669	1,792	1,293	309	190
Professional Services ...	816	1,091	457	634	1,292	203	780	309
Misc. Services	4,634	8,130	4,138	3,992	3,394	166	2,532	696
Ex-Service Personnel ...	1,661	1,358	1,299	59	...	...	...	...
No Industry	1,405	1,936	1,014	922	...	...	...	...

Source : Ministry of Labour and National Service.

TABLE VI.

PRODUCTION IN CERTAIN INDUSTRIES.

	(1) Cotton		Coal	(2) Pig Iron	(2) Steel Ingots and Castings	Ship-building	Building	
	Single and Doubled Yarn	Cloth				Vessels under Construction	New Houses Completed	
							Permanent	Temporary
	Million Pounds	Million Linear Yards	Thousand Tons			Th. Gross Tonnage	Number	
	Weekly Average					End of Period	Monthly Average or Calendar Month	
1938...	(3) (4) 26·5	79·0	275	20·6	21·0	54	...	...
1946...	19·04	38·0	207	20·2	28·0	200	515 (5)	732 (5)
1947...	13·03	34·08	218	20·2	27·3	234	1,232	514
1948...	...	40·5	233	22·5	31·5	223	...	...
1948 :								
Jan.			225	22·1	31·5		1,611	76
Feb.	15·38	39·48	235	22·8	32·0	227	1,636	225
March			225	22·6	29·9		1,969	93
April			224	22·8	34·1		1,789	161
May	19·80	41·36	237	23·3	31·9	261	1,957	79
June			248	22·2	33·5		1,933	146
July			188	20·7	26·8			
Aug.	19·40	38·24	224	21·8	27·6	266	1,889	8
Sept.			238	22·5	33·3			
Oct.			245	22·3	33·0			
Nov.	20·77	42·93	254	24·5	33·4	223	...	...
Dec.			248	22·4	30·9			

Sources : Cotton Board, Ministry of Fuel and Power, Iron and Steel Federation, Lloyd's Register, Ministry of Health.

(1) Includes Rayon and Mixtures : National Figures for 1938 and 1946. Figures 1947 onwards refer to the North-West Region. Those for 1947 and 1st quarter of 1948 refer to single yarn production only, while those for the 2nd quarter of 1948 and subsequently refer to single and doubled yarn.

(2) Includes Flintshire, Denbighshire, Yorkshire (other than North-East Coast).

(3) 1937.

(4) Single Yarn only.

(5) From end of war to end of 1946.

TABLE VII.

NEW BUILDINGS AND EXTENSIONS APPROVED.(1)
N.W. REGION.

End of War to end 1948.

	Thousand sq. ft.	No. of Schemes
TOTAL NORTH-WEST	**11,394**	**459**
Manchester Area	**2,421**	**91**
Engineers' Iron and Steel Founding	514	21
Chemicals	326	9
Oils, Glues, Soap, Polishes, Ink and Matches...	276	8
Cement	207	1
Merseyside	**2,063**	**98**
Oils, Glue, Soap, Polishes, Ink and Matches ...	421	15
Food Manufacture	390	16
Spinning District	**1,735**	**72**
Motor Vehicles, Cycles and Aircraft	343	7
Engineers' Iron and Steel Founding	290	13
Leather and Fur	220	1
Weaving District	**1,403**	**39**
Engineers' Iron and Steel Founding	564	5
Electrical Apparatus and Cables, etc. ...	269	2
Coal Chemical District	**2,242**	**93**
Narrow Fabrics ; made up Textiles ; and other Textile Industries	497	2
Rayon, Nylon, etc.	271	4
Fylde District	**455**	**28**
Rayon Manufacture	145	3
Southern Cheshire	**728**	**30**
Engineers' Iron and Steel Founding	318	5
Furness Area	**347**	**8**
Cement	180	1

Source : Board of Trade.

(1) Over 5,000 square feet.

TABLE VIII.

RETAIL TRADE : SALES AND STOCKS.

	SALES					STOCKS
	All Departments	Food and Perishables	Non-Food Merchandise			All Departments
			Total	Apparel	Household Goods	
	Weekly Average					
	Year 1946 = 100					Corresponding month in 1946 = 100
1945 year (1)	87	91	81	87	60	...
1946 year (1)	100	100	100	100	100	...
1947 year ...	110	108	114	110	127	...
1948 year ...	125	118	133	133	140	...
1948 :						
January ...	108	107	109	99	128	161
February	108	111	100	95	127	164
March ...	127	125	125	131	120	145
April ...	117	113	120	118	152	158
May ...	120	116	125	133	111	165
June ...	127	122	136	144	139	161
July ...	123	120	133	141	137	156
August ...	117	118	117	120	139	147
September	120	117	127	132	145	144
October ...	130	117	144	152	153	139
November	138	117	162	158	160	139
December	159	129	193	176	174	142

Source : Board of Trade Journal.

(1) Daily Average.

TABLE IX.

SHIPPING MOVEMENTS.

	1946	1947	1948	1948	
	Quarterly Average			3rd Qtr.	4th Qtr.
	Thousand Tons				
FOREIGN TRADE.					
Mersey and North-West Coast					
Total tonnage	5,374	6,152	7,381	7,632	7,611
Arrivals with cargo	2,217	2,675	3,218	3,331	3,305
Departures with cargo ...	1,328	1,501	7,787	2,025	2,085
Liverpool					
Arrivals with cargo	1,652	1,969	2,249	2,353	2,308
Arrivals with cargo and ballast	2,049	2,415	2,822	2,931	2,924
Departures with cargo ...	1,035	1,218	1,617	1,669	1,724
Departures with cargo and ballast	2,043	2,311	2,721	2,768	2,779
Manchester (including Runcorn)					
Arrivals with cargo	423	586	728	677	694
Arrivals with cargo and ballast	476	624	753	704	721
Departures with cargo ...	194	227	288	326	328
Departures with cargo and ballast	435	542	646	681	640
COASTING TRADE.					
Liverpool					
Arrivals with cargo	378	471	510	590	485
Arrivals with cargo and ballast	676	697	844	1,036	776
Departures with cargo ...	386	450	505	554	424
Departures with cargo and ballast	713	857	993	1,227	889

Source : Board of Trade Journal.

NOTES AND DEFINITIONS.

Geographical Definitions ; The NORTH-WEST comprises the counties of Lancaster and Chester. Labour statistics also include the High Peak Parliamentary Division of Derbyshire. The only figures in which this Region cannot be identified are the iron and steel production figures which include Sheffield and other parts of Yorkshire, other than " North-East " Coast, and Flintshire and Denbighshire.

Tables 1, 2, 3 and 7 subdivide the Region into its constituent districts. The sub-divisions are those adopted by the Economics Research Section's pre-war publication " Re-Adjustment in Lancashire " (1936). A separate line is added on Tables 1, 2 and 3 to show the position in the Development Area. The Ministry of Labour Employment Exchanges in these sub-regions are as follows (those in the Development Area are in italics).

MANCHESTER AREA : Altrincham, Ashton-under-Lyne, Bamford, Bredbury, Buxton, Chapel-en-le-Frith, Denton, Eccles, Glossop, Hyde, Knutsford, Levenshulme, Manchester, Marple, New Mills, Newton Heath, Openshaw, Prestwich, Reddish, Salford, Stalybridge, Stockport (including Poynton), Stretford, Wilmslow, Withington.

MERSEYSIDE : Birkenhead, Bootle (including Litherland and Crosby), Croston, Ellesmere Port, Frodsham, Garston, Hoylake, Liverpool (Leece Street, Old Swan, Walton, Regent Road (formerly " B " Clearing House)), Neston, New Ferry, Ormskirk, Southport, Wallasey.

SPINNING DISTRICT : Bamber Bridge, Bolton (including Turton), Bury, Chadderton, Chorley, Failsworth, Farnworth, Heywood, Kirkham, Leigh, Leyland, Littleborough, Longridge, Middleton, Mossley, Oldham, Pendlebury, Preston, Radcliffe, Ramsbottom, Rochdale, Royton, Shaw, Walkden, *Westhoughton.*

WEAVING DISTRICT : Accrington, Bacup, Blackburn, Burnley, Clitheroe, Colne, Darwen, Great Harwood (including Clayton-le-Moors), Haslingden, Nelson, Oswaldtwistle, Padiham, Rawtenstall.

COAL-CHEMICAL DISTRICT : *Ashton-in-Makerfield, Aspull,* Atherton, and Tyldesley, *Earlestown, Golborne, Hindley, (including Ince Juvenile Employment Bureau),* Horwich, Irlam, Prescot, Runcorn, *St. Helens, Standish, Upholland,* Warrington (including Lymm), Widnes, *Wigan (including Pemberton).*

FYLDE DISTRICT : Blackpool, Carnforth, Fleetwood, Galgate, Lancaster, Morecambe, St. Annes-on-Sea (including Lytham).

SOUTHERN CHESHIRE : Chester (including Tarporley), Congleton, Crewe, Macclesfield, Middlewich, Nantwich, Northwich, Sandbach, Winsford.

FURNESS AREA : Barrow-in-Furness, Coniston, Dalton-in-Furness, Grange-over-Sands, Ulverston.

Table 1.—The figures for September, 1948, and December, 1948, are taken from the Registrar-General's Returns which specify the larger towns only. The figures for the sub-regions on the left-hand half of the Table thus show the population in towns with over 20,000 inhabitants only, distinguishing the County Boroughs. The total population in July, 1948, in each sub-region, including the smaller towns and villages, is shown in the right-hand half of the Table and has been calculated from the Ministry of Food Returns based on the 11th issue of Ration Books.

Note.—In Ministry of Food Figures :
Preston includes Longridge U.D.
Bury includes Tottington U.D.
Chester, Blackburn, Burnley, Wigan, all include part of surrounding districts.
Warrington includes Warrington and Whiston R.D.'s.

Table II.—The employment figures in the first column relate to the estimated numbers of employees who were previously insurable under the Unemployment Insurance Acts, *i.e.* (with certain exceptions), all male manual employees between the ages of 14 and 64, and all female manual employees between the ages of 14 and 59, and non-manual workers earning less than £420 per year. The employment figures in the second column are based on the estimated numbers of employees insured under the new National Insurance Schemes. The unemployment figures include all the persons on the registers of the Employment Exchanges.

Note.—Manchester includes Employment Exchange Areas of Levenshulme, Manchester, Newton Heath, Openshaw and Withington.
Stockport includes Poynton.
Liverpool includes Employment Exchange Areas of Leece Street, Old Swan, Regent Road, Walton.
Bolton includes Turton.
Wigan includes Pemberton.
Warrington includes Lymm.

Table III.—The placing work of the Ministry of Labour Employment Exchanges reflects mobility of labour, since the majority of manual workers, and a large proportion of non-manual workers, notify their employment exchange when unemployed in order to qualify for benefit. The reliability of the vacancies figures varies with employers' habits of notifying or not notifying the local Labour Exchanges of any vacancies outstanding. In times of widespread labour shortage it is likely that relatively more vacancies are notified than in times of widespread unemployment.

Table IV.—This Table subdivides the total numbers of insured employed by industries on the basis of the Standard Industrial Classification. Whereas the previous Table published covered only the chief industries in the North-West, the present one covers all industry groups. An alteration in the form of the Table has been unavoidable since in July, 1948, the basis of the man-power statistics was changed with the coming into force of the more comprehensive schemes provided by the National Insurance Act. The new and broader basis of the statistics widens the scope of the figures, but owing to the changes and the use of the Standard Industrial Classification in making industrial analyses of the totals, the new series of statistics are not comparable with those for earlier years. The figures for October, 1948, and January, 1949, are calculations made in the Economics Research Section on the basis of the Ministry of Labour "L" Returns which do not cover all firms as do the figures based on the Ministry's July count. The figures have been calculated on the basis of indices and on the assumption that the movement in firms not making monthly returns is the same as in those who do. It is believed, however, that the error is not large.

Table V.—The unemployment and vacancies figures are arranged the same way as the employment figures in Table IV.

Table VI.—This Table gives production figures for some of the principal industries in the Region. The textile figures are still not all that could be desired, but it was thought better to make a start by publishing such figures as are available for the North-West, rather than national figures

Table VII.—This Table relates to New Buildings and Extensions (over 5,000 sq. ft.) approved in the North-West from the end of the war up to the end of 1948.

Table VIII.—The indices of retail trade show relative, rather than absolute, changes in prosperity. The figures are taken from the Board of Trade Journal, but have been recalculated to give 1946—the first full post-war year—as the base, rather than 1942, which is the Board of Trade's base year. They relate to a sample of departmental, co-operative and wholesale stores.

Table IX.—The figures for arrival and departures with cargo are and index of the volume of trade that passes through the ports. The extent to which the figures for arrivals and departures with cargo and ballast exceed the figures for arrivals and departures with cargo indicates the importance of other port activity, such as berthing and ship repairing.

Books Received

JOHN SPEDAN LEWIS :
Partnership for All :
Kerr Cross Publishing Co.

L. ROSTAS :
Comparative Productivity in British and American Industry :
National Institute of Economic and Social Research.
Cambridge University Press.

T. HULTGREN :
American Transportation in Prosperity and Depression :
National Bureau of Economic Research.

D. W. ROBERTS :
An Outline of the Economic History of England :
Longmans, Green & Co. Ltd.

C. E. GRIFFIN :
Enterprise in a Free Society :
R. D. Irwin, Inc.

W. D. BORRIE :
Population Trends and Policies :
Australasian Publishing Co.

National Income Statistics of Various Countries, 1938-1947 :
Statistical Office of the United Nations.

The Hyderabad Government Bulletin in Economic Affairs. July-November, 1948 :
The Government Press, Hyderabad.

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No. 17. *Economic Effects of Irrigation* :
by D. R. GADGIL.

No. 18. *The Social Survey of Kolhapur City : Part I—Population and Fertility* :
by N. V. SOVANI.

No. 19. *Some Observations on the Draft Constitution* :
by D. R. GADGIL.

No. 20. *Reports of the Commodity Prices Board* :
ed. N. V. SOVANI.

SIR WILLIAM ASHLEY :
The Economic Organisation of England :
Longmans Green & Co. Ltd.

The Effects of an Overseas Slump on the British Economy

1. The sort of slump which is discussed in current economic literature now seems a fairly simple business. Its cause is a fall in domestic investment, and the remedy for it is to increase investment or consumption through fiscal measures. It is still open to doubt whether either the analysis or the remedies of this textbook slump relate closely to what actually happens even in an almost closed economy, such as the United States of America is sometimes suggested to be—but we do not wish to argue this issue here. What seems fairly certain is that it hardly applies to the slumps which affect the British economy, and which are our present concern.

Slumps in the United Kingdom are associated with a fall in exports. There is some evidence of priority, to which Lord Beveridge has drawn attention, and there is even some plausibility in a theory that it is the fall in exports which starts or causes the British slump. We are concerned, however, in this paper, not with causes, but with effects. What we are asking is not what causes British slumps, but what happens to the United Kingdom if there is a slump abroad. We are not enquiring whether there will be a slump abroad, or seeking to forecast its probable magnitude. We assume a slump, and analyse only its probable effects.

Such an analysis is necessary because it is fairly obvious that, however suitable the textbook remedies of enlarged investment or consumption may be for countering a slump in the United States of America, they are not a promising method of countering unemployment in Britain due to falling exports. A slump coming from overseas is a different creature from one generated at home, and is much more difficult to handle.

Section I considers the effects of such a slump upon the balance of payments, and Sections II and III deal with internal repercussions.

I. The Balance of Payments.

2. The first point to establish is whether a slump improves the balance of payments, or causes it to deteriorate. Hope that it might improve the position was fairly current recently, being based on the expectation that a slump would improve the U.K. terms of trade. For some months in 1947 and 1948, when the prices of British imports were rising sharply, it was common to meet British economists who whispered their longing for "a *small* American slump" which would bring commodity prices down without, it was hoped, reducing the demand for British exports. But now that such a slump has actually arrived, this view is not so popular.

We have approached this problem by trying to find out what slumps have done to the balance of payments in the past. Thanks to Mr. C. K. Hobson [1] we have balance of payments estimates going back annually to 1870, and as there have been eight major slumps since that date, we have begun by analysing the figures for the experience of the past.

Measuring cyclical behaviour is by no means a simple job. To begin with, even the dates of the cycles are uncertain. The various indices that we can use for fixing the turning points, such as indices of the volume of exports, of industrial production, of national income, or of prices, have different turning points, which do not coincide; and if we were to take the dates yielded by any single index, the results would be misleading. What we have done is to use for each series its own turning points, and to measure the change from the top to the bottom of the slump. In most cases the cyclical movement is so marked, and the dates of the different series are so close together, that we can make our comparisons with full confidence, the most difficult case being that of the slump which occurred in the first half of the 1880's.

Table I shows the actual changes. A similar table could also be constructed showing the changes after the removal of trends. These changes are bigger (because when there is a powerful upward trend the actual fall in a slump is smaller

[1] *The Export of Capital.* For 1913 and after, the figures used in this paper are from the *Board of Trade Journal.*

than the cyclical fall) ; and they have different dates (because any growth smaller than the trend growth shows as a fall), but the net result is not significantly different.

If we begin with the last column of Table I, it is clear that the balance of payments has deteriorated in every slump, except the slump of 1937-38, when it improved slightly. The net effect of the slump, however, is the outcome of its effects on the balance of trade and on the balance of invisible income, each of which must be analysed in turn.

TABLE I

CHANGE FROM TOP TO BOTTOM

Export Volume[1]		Trade Balance[2]		Invisibles[3]		Difference[4]	
Dates	%	Dates	£m	Dates	£m	Dates	£m
1872–76	— 5	1872–77	—101	1873–76	— 13	1872–77	—100
1884–85	— 5	1884–85[5]	— 13	1883–84	— 5	1885–85[5]	— 7
1890–93	—11	1890–92	— 37	1890–94	— 15	1890–94	— 62
1899–1900	— 5	1899–02	— 17	1900–01	— 13	1900–02	— 20
1907–08	— 9	1908–09	— 32	1907–08	— 14	1907–09	— 31
1920–21	—29	1920–22	+172	1920–22[6]	—270	1920–22[6]	— 98
1929–31	—37	1929–31[7]	— 27	1927–32	—243	1928–31[7]	—240
1937–38	—11	1937–38	+ 65	1937–38	— 55	1937–38	+ 10

[1] Volume of exports, corrected for price changes ; from Schlote, W., *Entwicklung und Strukturwandlungen des Englischen Aussenhandels.* All trade figures used in this article, up to 1932, are from this source.

[2] Excess of imports of merchandise, silver bullion and specie.

[3] Sum of net income from shipping, investments and commissions.

[4] This differs from the net export of capital in that it excludes government transactions.

[5] The cyclical movement is not clear, because the volume of exports grew only very slowly between 1881 and 1884 ; alternative dates are possible with different results.

[6] There is no balance of payment estimate available for 1921.

[7] Both the trade balance and the net balance improved greatly in 1932 because of the tariff.

3. Invisible income is straightforward; it is always reduced by a slump. Before the first world war the effect of slumps was relatively small; the decline ranged only between —£5m. and —£15m. But after 1918 the effects were much more pronounced, and the declines were as much as —£270m., —£243m. and —£55m. in the post-war slumps. As the column relating to the volume of exports shows, the slumps of 1920 and 1929 were much more severe than any between 1870 and 1913, and, in consequence, both shipping income and investment income, the two largest invisible items, fluctuated more widely than they had done before 1914.

The change is particularly marked in investment income. Before 1914 this was a relatively stable item. The mean deviation from a nine-year moving average, from 1870 to 1913, was only 3%, whereas the mean deviations for value of imports, value of exports, and shipping income were respectively 4%, 6% and 7%. All the balance of payments items fluctuated more widely between 1918 and 1939 than they had done before, but the change was most marked in the case of investment income, which came to fluctuate as widely as any other item. Presumably this was due to the increased practice of repudiating debts, or at least, of controlling interest payments in foreign exchange.

Invisible income is now a much smaller item in the U.K. balance of payments than it was before 1939, and its fluctuations will not, therefore, be so important. The prospects of the balance of trade are more significant.

4. The balance of trade is also less straightforward than the balance of invisible income. It deteriorated in all the pre-war slumps, but it improved in the slumps of 1920 and 1937.

What happens to the balance of trade is determined by four variables: the price of imports, the price of exports, the quantity of imports and the quantity of exports. These four are related, in that what happens to each of them is determined partly by the magnitude of the slump, but there is no clear relation. It would be useful to find that a 1% fall in exports is usually associated with an x% fall in export prices, a y%

fall in import prices and a $z\%$ fall in the volume of imports, for one could then calculate with confidence what effect a slump would have on the balance of trade. But, in fact, when the figures are analysed, the slumps show no such consistent pattern of variation, and the variables have to be analysed separately.

Let us begin with those relating to volume. The volume of exports always declines in a slump more than the volume of imports, and this, naturally, has an adverse effect on the balance of trade. Indeed in half of the slumps since 1870, the volume of imports has not declined at all; the rate of growth has slackened, but imports have continued to increase. This is because the cyclical change in the volume of imports is very small, at the same time that the secular trend is powerful. Thus the mean deviation of the volume of imports, from 1870 to 1913, was only 2·0%, compared with 3·6% for industrial production,[1] and 4·5% for the volume of exports. And the average annual increase in imports, from 1873 to 1913, was 2·4%.

The secular trend in the volume of imports will certainly not be as strongly upward in future as it was before 1913, if only because population is not growing so rapidly. On the other hand, if we successfully maintain full employment, the cyclical fluctuation in imports will be smaller, and will not help the balance of trade when there is a slump overseas as much as it did before 1913.

British exports are also now more vulnerable, relatively to a given percentage fall of world income. This is because we are now more dependent on exporting capital goods than we were before, and capital goods fluctuate more widely than consumer goods in the slump. From 1870 to 1913 the mean percentage deviations in volume of exports were coal 4·2, textiles 4·3, chemicals 7·1, iron and steel manufactures 8·4, and machinery 9·0. As the U.K. has become much less dependent on the first two and much dependent on the others,

[1] W. Hoffman's index. See *Wachstum und Wachstumformen des englischen Industriewirtschaft von* 1700 *bis zur Gegenwart.*

we may expect the volume of exports to be much more sensitive in future to changes in world income.

A slump, therefore, always moves volumes against us and will probably do so even more markedly in future.

We turn to prices. In most of the slumps before 1914 the prices of exports fell more than the prices of imports : the terms of trade deteriorated, and this further weakened the balance of trade. It would be too much to say that this was a definite movement, because the cyclical movement of the terms of trade does not coincide with that of other series, but in four out of five pre-war slumps (the exception is 1884-85) the terms of trade deteriorated, or were deteriorating, between the crucial dates.

This result is exactly the opposite of what we have come to expect since the war of 1914-18. The terms of trade improved 14% between 1920 and 1921, improved 26% between 1929 and 1931, and improved 8% between 1937 and 1938. This reflects the much greater volatility of raw material prices in the inter-war period, when there was a chronic tendency to accumulate raw material surpluses. And it may also be associated with the changed composition of British exports, to which reference has already been made. Coal and cotton were highly competitive industries up to 1929, and their prices fluctuated as much as did the prices of British imports In 1913 coal and textiles comprised 48% of British exports, having been over 60% in 1870. But by 1937 the figure was down to 31%.

Nevertheless, we cannot be sure that the terms of trade will improve in all future slumps. On the import side, the prices of several important commodities are already subject to controls which will prevent them from falling as violently in the future as they used to in the past, *e.g.*, wheat, cotton and tobacco, and in several other cases similar controls are widely canvassed. And there is also the uncertain influence of bulk long term contracts. At the same time, on the export side U.K. opinion has become much more disposed towards price competition in time of slump, whether by cutting prices in terms of sterling, or be devaluing the pound. The joint

effect of these forces will almost certainly be to prevent the terms of trade from improving in future slumps as much as they improved between the wars, and it is even possible that they may not improve at all, or may even deteriorate, as they used to do before 1914.

Given that the volume of exports falls more than the volume of imports, the balance of trade must deteriorate in a slump unless the terms of trade improve correspondingly.[1] This is what happened in 1920-21, and in 1937-38, the only two occasions when the slump has improved the balance of trade. On both occasions the crucial factor was the decline in the volume of imports. For example, in 1937-38 imports declined in volume by 4%, and exports by 11%, a net decline (ignoring the difference between imports and exports) of 7%. And as the terms of trade improved to the extent of 8%, the balance of trade improved.

However, if we are to pursue a full employment policy whatever may happen elsewhere, then imports will not decline significantly in future slumps, and the balance of trade cannot improve unless the terms of trade improve by more than exports diminish. This did not happen in the inter-war period, and is not likely to happen.

It is not likely to happen because there are two forces at work in a slump to diminish exports, one of which is the change in the terms of trade itself. This change makes our customers correspondingly poorer, and might be expected normally to reduce the volume of our exports in the same proportion. Admittedly we cannot disentangle this effect from the statistics of pre-1914 slumps, but it seems reasonable to suppose that the more violent fall of exports in the inter-war slumps was partly due to the new phenomenon of big improvements in the terms of trade. Indeed, it is even

[1] A 1% change in our four variables is not of equal magnitude because the value of imports exceeds that of exports. Thus, if imports are £2,000m. and exports are £1,500m. a 1% fall in both imports and exports (whether in price or in quantity) improves the balance of trade by £5m. Since the war, however, we have reduced the gap between imports and exports so much that this difference is now small.

legitimate to doubt whether an improvement of the terms of trade helps the balance of trade at all. If it leads to a corresponding fall of the volume of exports, the balance of trade is left the same as if the terms of trade did not alter at all. (The country is better off, in that it can get the same imports for less exports—unless this merely increases unemployment —but the balance of trade, with which we are here concerned, is unaffected).

Of course, if our terms of trade alter relatively to those of other industrial countries, then our share of the world market for manufacturers is affected. But it is not then the movement of the terms of trade, as such, that is affecting our balance of trade, but only our competition with other manufacturers, which is not itself necessarily affected one way or the other by the slump. To this we shall, nevertheless, return.

The other force which operates in a slump to reduce the demand for our exports, in addition to the improvement of the terms of trade, is the fall in world income, due to the fact that the slump reduces employment and the volume of production in the countries that buy from us, which, quite apart from any price changes, must reduce the demand for U.K. exports. If an overseas slump could take the form of a fall of prices, without any fall of employment or production, it is possible that the volume of U.K. exports and the terms of trade might move in opposite and exactly equal magnitudes, leaving the balance of trade the same as before. But since a slump always reduces production as well as prices, it is virtually impossible for a slump to improve the balance of trade unless U.K. imports decline in volume as well as in price.

This analysis is strongly supported by the fact that in several slumps before 1913, the volume of exports fell although the terms of trade were moving in favour of our customers. This is because the decline of world income is an independent force, whatever may happen to the terms of trade. And as we have previously seen, it is likely to affect the U.K. even more adversely in the future because of the change in the composition of U.K. exports, and the shift towards investment goods.

5. When we add together the fact that the invisible balance is always reduced, and the conclusion that the trade balance must worsen unless imports are cut, it seems most unlikely that a slump could ever improve the balance of payments if we are determined to maintain full employment.

There is no means of calculating exactly how much a slump will cost us, because the variables have not changed consistently in relation to each other in the past. We can, however, approach the problem by making arbitrary assumptions. Suppose that imports and exports before the slump are valued at £1,800 millions, and that the effect of the slump is to leave the quantity of imports and the price of exports unchanged, while reducing the quantity of exports and the price of imports. Assume, further that a 1% fall in the volume of exports is associated with a 0·5% fall in import prices. (We are thus assuming that exports fall by twice as much as the terms of trade improve). Then a 1% fall in exports will cause the trade balance to deteriorate by £9 millions.

In the " average " pre-1914 slump, U.K. exports declined in volume by 7%. The smallness of this movement was partly due to the existence of a strong upward secular trend ; the cyclical fall, with trend removed, averaged 13%, and the post-war falls, when the trend of exports was downward, were respectively 29%, 37%, and 11%. Nowadays, all governments are likely to try to keep slumps mild, but we shall be very lucky if U.K. exports fall by less than the pre-1914 average of 7%, and such a fall, on the assumptions made in the previous paragraph, would cost the balance of payments £63 millions, and our invisible income a further unknown sum. If we expect that at the bottom of the next slump, our balance of payments may be at least £100 millions worse than at the top of the boom, we shall not prove to have been wildly pessimistic—though, of course, we can always keep in balance if we cut imports sufficiently.

6. The slump does not only worsen our total balance ; it also affects our dollar relations worse than it affects the total.

Unfortunately there are no balance of payment figures from which we can isolate the pre-war dollar balance. But we can approach the problem by analysing the trade figures, which show the continents to which our exports go, and the sources from which imports come, and seeing how the proportionate importance of different continents alters in the slump.

Table II is constructed as follows. The volume of exports reached a peak in 1872, and a low point in 1876. According to Schlote's calculations,[1] Europe took 41·8% of U.K. exports in 1872 (by value) and 43·7% in 1876. The proportion thus increased by 1·9 points, and this is the figure entered in the first column of the first row. Africa took 5·6% and 5·1%, and the difference of —0·5 points is entered in the second column. And so on. The sum of the columns of any row should thus be equal to 0.

TABLE II

CHANGE IN DIRECTION OF BRITISH EXPORTS

	Europe	Africa	Asia	North America	South America	Australasia
1872–76	+1·9	—0·5	+5·5	—7·9	—2·4	+3·4
1884–85	—1·3	+0·2	+1·7	—0·5	—1·7	+1·6
1890–93	+1·7	+1·1	+0·1	—0·9	—0·2	—1·8
1899–1900	+0·3	+0·3	—1·6	—0·1	+0·3	+0·8
1907–08	+1·3	+0·5	+0·6	—2·5	—0·7	+0·8
1920–21	—6·1	+0·1	+4·0	+0·4	—0·3	+1·9
1929–31	+8·6	+1·7	—3·5	—1·1	—2·0	—3·7
1937–38	+0·9	+0·2	+0·4	—2·2	—0·4	+1·1
Sum.	+7·3	+3·6	+7·2	—14·8	—7·4	+4·1

The result is pretty consistent. Exports to North and South America nearly always fall more than exports to the

[1] *Op. cit*, Table 19.

other continents. Our dollar earnings are hit by a slump more than our total earnings.

Is this compensated by a fall in our dollar purchases? Table III analyses the sources of British imports in a similar way.

TABLE III

CHANGES IN SOURCES OF BRITISH IMPORTS

	Europe	Africa	Asia	North America	South America	Australasia
1872–76	—0·9	—1·7	—1·2	+5·2	—2·9	+1·5
1884–85	+1·2	—0·4	—0·7	+1·2	—0·3	—1·0
1890–93	+0·6	0·0	—1·6	—0·1	+0·6	+0·5
1899–1900	—1·4	—0·4	—0·4	+1·8	+0·6	—0·2
1907–08	+0·7	—0·7	—1·9	+0·3	+2·2	—0·6
1920–21	+5·0	—0·8	—2·7	—2·8	—1·3	+2·6
1929–31	+7·5	—2·0	—2·0	—3·8	—1·0	+1·3
1937–38	0·0	—0·8	—0·3	+1·6	—1·6	+1·1
Sum.	+12·7	—6·8	—10·8	+3·4	—3·7	+5·2

The answer is in the negative. Imports from Asia and from Africa fall consistently in slumps, presumably because the prices of tropical products are most vulnerable. Imports from the Americas sometimes fall more than total imports, and sometimes less, but clearly cannot be relied on to fall enough to compensate the fall in dollar earnings.

And, indeed, the position is likely to be worse in future than it has been in the past. To some extent the U.K. earns dollars by selling goods to tropical producers who have sold rubber, cocoa, tin, etc., to the U.S.A., and uses these dollars to buy such American commodities as wheat, cotton and tobacco. If, in a slump, the price of wheat, cotton and tobacco falls as much as the price of rubber, cocoa and tin, then to some extent what the U.K. loses on the swings is gained on the

roundabouts. But nowadays the U.S.A. maintains the prices of wheat, cotton and tobacco in the slump, while at the same time protesting vigorously against any international arrangements that may be made to support the prices of rubber, tin or cocoa. This is bound to affect the U.K. very adversely. It means that in the slump U.K. exports will fall in value much more than U.K. imports, and that U.K. dollar earnings will shrink much more sharply than U.K. dollar purchases.

7. What then are we to do ? Two courses are open to the U.K. One is to try to earn a sufficiently large surplus of foreign exchange during the boom to tide over the deficiency caused by the slump. And the other is to pursue an agressive policy during the slump, designed to secure a larger share of world trade in manufactures.

The second of these alternatives is hardly practical politics. In the slump many of our competitors are in the same position as ourselves. Any measures that we take, whether dumping, currency devaluation, or bilateral bargaining, they will take also ; and, with world trade contracting, the struggle must be bitter, must give rise to strong and dangerous ill feelings, and may very likely nevertheless be unsuccessful. This was the clear experience of the 1930's when all these measures were tried with no clear result other than the deterioration of international goodwill. A fierce competitive struggle is feasible politics at times when international trade is expanding, but not when it is contracting. We must strive as hard as we can during booms to get a share of world trade adequate to give us any surplus we may need to tide over slumps. But when the slump comes, countries are better advised to seek to solve their problems in co-operation rather than in competition. The proper way to deal with the balance of payment difficulties created by a slump is to have a system of providing loans to those who are in temporary difficulties. Bretton Woods is such a system, and would serve fairly well if only its quotas were larger and more adequate.

The argument of the preceding paragraph assumes that if the U.K. tried measures to increase her share of world trade during a slump, her major competitors would do the same.

If this assumption is wrong, it is possible that the balance of payment problems created by the slump might be met by intensifying competition at those times. But it seems in any case desirable that the U.K. should try to return to a position where surplus earnings in the upswing are large enough to cover the losses of the downswing with a comfortable margin. This was the position we held from 1870 to 1939, and is obviously the safest and most desirable situation to be in, if it can be attained. If it is to be attained, the U.K. will now have to increase her share of world trade considerably, but the problems which this raises are beyond the scope of this paper.

II. Unemployment.

8. We turn now from the external to the internal problems created by an overseas slump. The immediate effect is of course a tendency for production to fall, and for unemployment to increase.

In pre-war slumps the proportionate fall in the volume of exports was greater than the proportionate fall in production and employment. The mean percentage deviations from the trend, from 1870 to 1913, were volume of exports 4·5, industrial production 3·6, and employment percentage 2·2. These relations are such as we might expect. Industrial production falls by more than exports fall, when measured absolutely, because of the working of the multiplier, and of secondary effects on investment, but falls by less proportionately, because production for export is only a fraction of total production. And employment falls less proportionately than industrial production, because employment in industry is only a fraction of total employment.

In these pre-1914 slumps there may have been domestic factors acting independently to cause a slump, in addition to the fall in exports, so we cannot assume that the pre-war relations are an exact guide to the effects on employment of a fall in exports. We can, however, make our own first approach to the problem if we are willing to make certain assumptions.

In 1948 visible exports were valued at 14% of national output. If we assume that employment varies proportionately

with output, then the direct effect of a 10% fall in the volume of exports is a 1·4% fall in employment, say 300,000 workers. The employment multiplier is usually thought to be between 2 and 3, bringing the unemployment up to say 3%. Then there are the secondary investment effects, due to the fall in prices, exports and consumption, which discourages investment. No one can tell how large these effects may be, but it would not be surprising if they brought the total up to 5%. Thus a 10% fall in exports might cause as many as a million persons to lose their jobs. Since a 10% fall in exports is not at all improbable in a slump, we can see that the possible effects of an overseas slump upon employment in the U.K. are pretty formidable.

This calculation ignores the possibility that balance of payment difficulties may make it necessary to cut down the import of raw materials, and so put still more persons out of employment. This seems rather a remote possibility, since there is still much else that could be cut out of imports, before we got down to raw materials ; and also since, if matters were coming to this pass, it is to be hoped that international arrangements could be made to prevent so serious a catastrophe. The prospects of a million unemployed through a fall in exports are bad enough without adding the possible repercussions of an enforced cut in imports of raw materials.

9. What are the remedies for this sort of unemployment ? The most obvious is to try to continue exporting, in spite of the slump, by increasing our share of world trade. This we have already discussed. It has undesirable political consequences, and would probably also not be successful. In any case, for the purpose of the rest of this argument we shall assume that this remedy is not effective.

Then we must consider the prospect of using for home purposes the resources which would otherwise have worked for export. This would be easiest if home demand could be expanded for the same products that would otherwise have been exported, so that resources do not have to change their occupations. It becomes more difficult the greater the degree of mobility of resources that it involves.

Can we absorb at home the products that would otherwise have been exported, without any movement of resources? This does not seem unlikely in 1949, when there is still an immense backlog of demand for goods of all sorts which are now being exported. If we cannot sell the cars abroad, we can use them here; and the same goes for telephone equipment, electrical machinery, furnishings, suitings, and almost everything that is now being exported, with a few exceptions, such as light electrical goods for domestic use. More domestic consumption and a bigger investment programme should between them be able to take up all that can be spared from the export markets in 1949 and 1950.

If this guess is right, the slump of 1949/50 holds no terrors for us, as far as unemployment is concerned (the balance of payments is a different matter).

But we reach this conclusion only because there is still a backlog of demand, stretching back to 1939, for durabled consumer goods, and for other forms of capital investment. The former of these, the consumer backlog, does not take long to satisfy, as current American experience shows. The housing backlog, and the re-equipment of industry and of transport, will take longer to satisfy. But it is unlikely that any backlog will remain by the time we reach the slump of 1960 (or thereabouts). The 1950 slump may present no unemployment problem, if we can set to work repairing the ravages of war. But this makes it only all the more likely that the slump of 1960, coming after a decade of reconstruction, will present quite serious unemployment problems.

The rest of this paper concerns itself only with the problem of such slumps as cannot be remedied simply by satisfying a backlog of demand.

10. If there is no backlog, a policy of using at home the products which cannot be exported because of a slump, requires that domestic consumption and investment should deliberately be made to fluctuate cyclically. As the slump comes, and exports fall, home consumption and investment should increase; and as the boom returns, and exports rise, home consumption and investment should be cut.

We have only to state this solution to see that it raises many difficulties. There is first a political problem. It is easy enough, when a slump comes, to think of ways of stimulating demand. But when the slump ends, and exports begin to revive, will the public submit gracefully to a cut in its standard of living? Given good leadership, the public accept anything reasonable that is properly explained to it, but we have not yet learnt the technique of explaining why a cut in the standard of living should be accepted, and until we do, this solution may not work in practice.

Then there are problems of technique. It has sometimes been suggested that this is simply a fiscal problem: cut taxes in the slump, and raise them in the boom, and all trade cycle problems are solved. Unfortunately this is not so. Exports consist partly of consumer goods, and partly of capital goods, and it is the latter which feel the slump most. Merely to lower taxation and stimulate consumption will not provide a market for these capital goods. In some trade cycle models, investment is a simple function of consumption, or of the rate of increase in consumption. But in the real world probably a majority of investment is only remotely related to the current level of consumption, and we must act directly upon investment as well as upon consumption if we want to solve our problem.

Neither is it enough just to stimulate demand in a general way, *e.g.* by reducing taxes on income and subsidising investment. For the increased demand will not necessarily flow in the directions that we require. We want the public to consume more textiles, china, and bicycles. But when the public gets more income it tends to spend it on buying more American tobacco, on going to see more American films, and on sucking more sweets made of Cuban sugar. This means that it is not enough to stimulate demand in a general way. What we have to do is to stimulate demand for the particular commodities which can no longer be exported, because of the slump. And this means special measures, such as subsidising heavily these particular commodities, so long as the slump lasts. Similarly, it is not investment in general that must be stimulated, but

only the types of investment that use the particular goods that are temporarily in surplus supply.

This restraint is imposed by the immobility of labour. If resources were sufficiently mobile, it would be enough to reduce taxation to whatever level is needed for full employment (but no increase in imports could be permitted). Consumer industries would expand relatively to investment industries, if necessary, and labour would flow out of the industries where it was not wanted to those where demand was increasing. Then, as exports revived, taxes would be increased, and labour would flow back into the export industries. This is so difficult to organise that it seems hardly practicable. It would require some industries to be carrying excess capital equipment in the upswing, that would be used only during the slump. It would also require that a large number of workers should have duplicate skills, and that trade unions should put no obstacle in the way of cyclical mobility. And it would also require either that labour should be prepared to move to and from the exporting towns with cyclical regularity (and this assumes a surplus of houses in the towns containing the domestic industries), or else that export and domestic industries should be mixed up geographically in every part of the country, so that workers can change their jobs cyclically without having to move about the country. If all this cannot be arranged, then when the slump comes what we have to do is to encourage the public to consume what is available, rather than to adopt measures which would work only if the economic system were able to deliver the goods which the public freely demands.

Furthermore, when one analyses the list of British industries to see which are the domestic industries that might be expanded during the slump, they are very difficult to find. All the major industrial groups are already large exporters, and when the slump in exports comes they will all be hit, and will have to set about securing an increased domestic consumption large enough to support their own workers, before they are in a position to offer shelter to workers from other industries. If an industry is exporting 20% of its production, and exports fall 10%, domestic demand need expand only

2½% to compensate ; but if it is exporting 60%, as some are, domestic demand must expend by 15% to compensate. And, since many export industries would be having to shed workers, we would be asking a few to expand by anything up to 100% during the slump, and to contract again in the boom. The primary effect of a 10% fall in imports may be as low as about 300,000 unemployed, but it is not easy for a few industries to expand sufficiently to take in even 300,000 on a temporary basis.

The most popular candidate for this task is the building and construction industry—public works are the oldest remedy for a slump. Its problems illustrate those of all other candidates. First, only certain types of labour are suitable for it ; some other means must be found of absorbing the textile women workers during a slump. Secondly, the workers to be absorbed must be spread fairly evenly over the country, and not concentrated in a few areas, as export industries tend to be. Thirdly, the trade unions must agree to this cyclical influx of workers, and must drop their rules on demarcation and dilution. This is a formidable condition. We are asking that the building and construction industry should fluctuate regularly between say 900,000 and 1,200,000 workers, and the unions concerned can hardly be expected to jump gladly at this proposal. And, fourthly, the industry must be organised to permit this regular inflow and outflow. Just as the army keeps a high peace time ratio of officers to men, similarly the industry would have to have an abnormally high proportion of skilled men and supervisory staff during the upswing. This is difficult to arrange if the industry consists of small independent units. Probably it could be arranged only if the industry were nationalised, and run centrally, and even then it would not be an easy task.

Unemployment caused by a fall in exports is so much more difficult than unemployment caused by a fall in home investment because in the former case one has to substitute new demands for old, whereas in the latter case one has only to try to return to the *status quo ante*, by restoring investment to its former level. Making new demands, and making them

vary anti-cyclically will prove a difficult undertaking, and though it may succeed partially, it is almost certain to leave large pockets of unemployment.

11. If we cannot use the resources at home, we return to ways of disposing of them abroad. We have already dealt with the competitive struggle for a larger share of world trade. Alternatively, we might make loans to enable our customers to continue purchasing. The U.S.A.'s objection to discrimination does not seem to extend to tied loans, so presumably there would be no protest if we lent money to keep our exports up. Even this, however, is not simple, since some countries prefer to borrow during a boom rather than during a slump, and others have difficulty in so arranging their investment programmes to fit anti-cyclically into our pattern. These difficulties could probably be met.

To lend money just in order to sell goods is, however, only one step removed from giving the goods away. To give goods away is better than to be unemployed, since the latter has multiplier and secondary repercussions, but it is also a confession of failure in domestic planning.

Finally, it is possible, in many cases, to produce for stock. When the slump comes, why should not the factories produce steel ingots, grey cloth, or crockery for stock, instead of merely expelling their workers into idleness? This also has its difficulties. It cannot be applied in industries where the product will not keep, either for technical reasons, or because of rapid obsolescence. Also producers would not be willing to carry the risk, without government assistance, and the government could not give subsidies or guarantees without imposing limits on production (otherwise the industry might expand in the slump instead of contracting). The industry would have thus to be adjusted to a size smaller than could supply the boom demand, but just adequate for the average of boom and slump. We know, from the struggles of the U.S. government with agriculture in the 1930's, just how difficult it is to operate buffer stocks. On the other hand, we also know from the nineteen-thirties how unpleasant and how

costly is mass unemployment, and how important it is to try to eliminate it.

12. There is no single, simple remedy. All the remedies have difficulties of their own, and each meets only a part of the problem. What we need is a combination of several.

It is also important to have remedies which apply themselves automatically, since, the longer we wait to apply the remedy, while the government makes its plans, the greater is the secondary unemployment indirectly created, and the more difficult it is to cope with the situation. We need therefore measures which come into effect as soon as exports begin to fall, and which are adjusted in strength automatically, in accordance with the degree of unemployment.

The first line of defence is obviously the removal of such controls as may be in existence to restrain domestic demand in the interest of exports. The requirement that a firm must export $x\%$ of its production can be reduced or abolished as soon as it is clear that overseas demand is falling off, and that stocks at home are passing normal levels. The purchase tax on domestic sales also can be reduced. The next step is to reduce the general level of taxation, in order to stimulate consumption ; but this is a bold step, and the Chancellor will take time to think before he agrees to make it. This same time should be used for preparing later steps, such as subsidies to goods in surplus supply, subsidies to exporters producing for stock, expansion of public works, and loans to foreign buyers, each of which takes some time to negotiate. Correct timing is so important, and some of the problems involved are so intricate, that there ought surely to be a small permanent staff in the Treasury always preparing the means of dealing rapidly with the next slump, just as the army keeps a small staff constantly preparing for the next war.

III. The Regional Problem.

13. Special difficulties are created by the fact that exporting industries are not distributed evenly throughout the country. In consequence, some regions are more directly affected by a slump than are other regions. Remedial measures

are also more difficult. If 500,000 people lose their jobs, and are distributed evenly throughout the country, it is much easier to find them new jobs, than if all 500,000 are in Lancashire or in Scotland. In this section we first estimate the probable regional impact of an overseas slump, and then consider the possibilities of redistribution.

14. The Ministry of Labour has published, in *Tables Relating to Employment and Unemployment in Great Britain*, a classification of numbers employed by industries and by regions. It is most unfortunate that the latest figures are for July, 1947, but we have had to use these in the absence of later ones. In any case, it is fairly likely that the population had completed its major regional and industrial post-war readjustments by July, 1947; and though figures for July, 1949, would be different, the differences would probably not be large enough to upset our conclusions gravely.

Separate figures are shown for 11 regions and for 109 industries. These figures give an excellent picture of the industrial structure of each major region of Great Britain. In Table IV they have been summarised to show for each region the percentage distribution of its insured workers by industries.

15. In order to estimate the impact of a slump we need first to know what proportion of workers in each industry in each region is working for export markets. On this, exact information is not available. Official returns have been collected from most factories in manufacturing industry and the national figure of workers employed in manufacturing industry on orders for export has been published. In addition we have been shown the total figures for each industry for the country as a whole and have used these figures to make a rough and approximate calculation. We cannot claim accuracy for this calculation; it is designed merely to give a rough idea of the relative vulnerability of different regions.

There are more errors in our result than those which arise out of possible inaccuracies in the original returns. There are, first, errors arising out of the shift in the distribution of population since July, 1947. Secondly, there is the error

TABLE IV

REGIONAL STRUCTURE[1]: PROPORTION ENGAGED IN EACH INDUSTRY AT JULY, 1947

	London & S.E.	Eastern	Southern	South Western	Midland	North Midland	East & W. Ridings	North Western	Northern	Scotland	Wales	Great Britain
1. Agriculture	2·3	15·9	7·8	8·5	3·2	7·3	2·3	1·3	3·5	5·0	4·1	4·3
2. Mining	0·3	0·3	0·0	2·4	4·5	10·8	10·4	2·8	17·6	5·8	19·9	5·3
3. Non-Metalliferous ...	0·4	0·7	0·3	0·3	0·4	0·6	0·5	0·4	0·9	0·3	0·7	0·5
4. Brick, Tile	0·1	0·5	0·6	0·4	0·8	0·8	0·5	0·3	0·5	0·5	0·6	0·4
5. Pottery	0·1	0·0	0·1	0·1	3·6	0·3	0·1	0·0	0·1	0·1	0·0	0·4
6. Glass	0·4	0·1	0·0	0·0	0·4	0·2	0·7	0·8	0·5	0·2	0·1	0·4
7. Chemicals	2·3	1·7	1·1	1·1	1·2	1·5	2·1	4·0	3·0	1·8	2·2	2·2
8. Metal Manufacturers ...	0·4	0·2	0·9	0·4	5·0	2·2	4·4	1·4	4·5	2·4	9·8	2·4
9. Engineering	6·5	7·7	5·5	6·9	11·7	8·6	9·8	9·5	9·1	8·5	3·0	8·1
10. Vehicles	4·2	5·3	9·4	7·4	7·9	4·6	2·4	3·2	1·7	2·5	2·6	4·3
11. Shipbuilding	0·6	0·5	3·1	1·9	0·0	0·2	0·5	1·5	4·8	3·2	1·1	1·4
12. Other Metal	7·0	4·1	3·0	2·0	17·5	4·0	5·4	5·1	2·7	3·5	4·1	6·0
13. Textiles	0·6	1·0	0·6	1·2	1·9	8·5	12·5	13·7	0·9	6·1	1·4	4·9
14. Leather	0·6	0·3	0·2	0·4	0·4	0·5	0·5	0·6	0·3	0·3	0·3	0·5
15. Clothing	3·8	3·8	1·3	2·6	1·5	7·4	4·3	4·6	2·5	2·0	1·4	3·4
16. Food	3·4	4·4	3·0	5·0	3·1	3·3	3·4	4·0	2·8	4·9	2·3	3·6
17. Woodworking	2·2	1·8	2·5	1·9	1·1	1·2	1·3	1·4	1·1	1·6	0·8	1·6
18. Paper, Printing ...	4·2	3·5	2·3	3·2	1·3	1·7	1·8	2·5	1·2	2·9	0·9	2·6
19. Other Manufacturing ...	3·1	1·9	1·2	1·4	2·1	0·8	0·9	2·1	0·8	1·3	0·8	1·8
20. Other employment[2] ...	57·4	46·5	57·1	52·9	33·2	35·5	36·3	40·8	41·5	47·1	43·9	45·9
Total	100	100	100	100	100	100	100	100	100	100	100	100

[1] The area included in each region, with total insured population in thousands is as follows : *London and South Eastern :* London, Middlesex, Kent, Surrey, Sussex and parts of Essex, 3,426 *Eastern :* Huntingdonshire, Cambrdigeshire, Norfolk, Suffolk, Bedfordshire, Isle of Ely and parts of Essex and Hertfordshire, 767. *Southern :* Oxfordshire, Buckinghamshire, Berkshire, Hampshire, Isle of Wight and Dorsetshire, 685. *South Western :* Gloucestershire, Wiltshire, Somersetshire, Devonshire and Cornwall, 767. *Midland :* Herefordshire, Shropshire, Staffordshire, Warwickshire, and Worcestershire, 1,478. *North Midland :* Parts of Derbyshire, and Nottinghamshire, Lincolnshire, Leicestershire, Rutlandshire and Northamptonshire, 1,051. *East and West Ridings of Yorkshire :* 1,371. *North Western :* Cheshire, Lancashire, and parts of Derbyshire, 2,198. *Northern :* Durham, Northumberland, North Riding of Yorkshire, Cumberland and Westmorland, 956. Scotland, 1581. Wales, 678. The total insured population of Great Britain was 15,132 thousand.

[2] This includes Building Construction, Gas, Water and Electricity, Transport, Distribution, Commerce and Finance, and Miscellaneous Services.

arising out of applying to each region a figure that is at best only an average for the whole country ; thereby as it were assuming that in any particular industry the proportion engaged on export orders is the same throughout the country. This error is not perhaps so serious if home and export markets are fairly substitutable from the standpoint of the firm. For, even if in the boom firms worked either entirely for the home market or entirely for export but never for both, it is most likely that in the slump exporters would seek a footing in the home market, so that even regions which worked exclusively for the home market, would be affected by the decline of exports. Then, thirdly, there is the error arising out of assuming that regional vulnerability is adequately measured by calculating the proportion engaged on export orders. For example, the motor car industry is required to export 75% of its production, but this does not make this industry more vulnerable than say the industry making wireless sets. For, if the export demand for motor cars declines, the home market will gladly take up the surplus (at any rate in the 1950 slump) ; whereas if the export demand for wireless sets declines, the makers are in a more difficult position.

We claim no accuracy for our calculation. It is merely a very rough guide to the relative vulnerability of regions. The procedure is as follows. Take any column in Table IV, *e.g.* the first column, relating to the London and South Eastern region. Multiply the figure for each industry by the percentage engaged in export in that industry in Great Britain, and sum the result. This gives a notional percentage of insured workers in this region working for export.

Unfortunately, the percentage figures of persons working for export do not apply to persons engaged in transport, distribution or commerce, so the sums we get exclude persons in these trades who are handling export orders, and are correspondingly too small.

The sums are as follows : London and South Eastern, 11·3 ; Eastern, 10·2 ; Southern, 10·4 ; South Western, 10·2 ;

Midland, 21·4 ; North Midland, 14·5 ; East and West Ridings, 17·2 ; North Western, 17·6 ; Northern, 12·5 ; Scotland, 13·3 ; and Wales, 11·3.

The sum for Great Britain is 13·1. This compares with the calculation that in 1948 exports were 14·4% of the national output, by value. The figures are not strictly comparable, because the former relates to manpower, and the latter to value, and it is probable that output per man is higher in exporting than in the economy as a whole. The manpower figure also excludes the contribution of transport and of distribution and commerce to exports, and should therefore, by the test of value figure, be rather lower. This confirms what we have suspected, namely, that the returns of persons working for export are too high. Probably we will not be too far wrong if we treat our regional sums as including transport and distribution. In any case we are interested not in absolute magnitudes but only in the relative vulnerability of regions.

One further modification has to be made in order to arrive at relative vulnerability. Not all exports are equally susceptible to the slump. Capital goods, for example, fluctuate more than textiles. Using Schlote's figures of volume of exports, the mean percentage deviations from trend, in the period 1870 to 1913, were coal 4·2, textiles 4·3, leather goods 6·6, chemicals 7·1, paper 7·2, iron and steel manufactures 8·4, and machinery 9·0. We have, therefore, to weight industries according to their sensitiveness to a slump of exports. This is largely guesswork, but the following weights have been used ; the industries in Table IV numbered 2 to 6, 13, 15, 16, 17 and 19, have been given a weight of 1 ; number 14 is weighted 1·5 ; numbers 7 and 18 are weighted 1·7 ; and numbers 8 to 12 are weighted 2·0. The weighting is done by multiplying the percentage engaged on exports in an industry by the weight. The product is then used to multiply the figures in Table IV, as already explained above.

The result is an index of regional vulnerability, which is as follows, in order of vulnerability :—

Midland	37·9	London & S.E. ...	19·5
North West ...	26·6	Wales	19·4
E. & W. Ridings ...	26·6	Southern	18·9
North Midland ...	22·5	Eastern	17·8
Northern	21·9	South Western ...	17·8
Scotland	21·7		

If these figures have any absolute significance the nearest interpretation would be : if there is a 10% fall in exports of the commodities to which we have given a weight of 1 (and a correspondingly larger fall in other exports), then 3·79% of the Midland population will be directly unemployed (ignoring multiplier and secondary effects), 2·66% of the North West population, and so on. But it is not the absolute but the relative positions of the Regions that is of interest.

If we had been making this calculation some fifteen years ago, the results would have been quite different. In the first place, a smaller proportion of metals was being exported, and so the Midland region would not have been the most vulnerable. And, secondly, coal was much a more important export. The coal mining regions—North Midland, Northern, Scotland and Wales—are now at the foot of the list of industrial regions, for vulnerability. They have suffered much in the past from declines in the volume of exports, but now they are relatively safe. We have not yet got used to this change. Much of what is written on location policy fails to realise that the nature of the problem has changed, and that it is no longer over the former " depressed areas " that the sword now hangs.

16. And so we come to policy. It has often been suggested that it is desirable to diminish regional specialisation, so that, when a slump in exports comes, its impact may be distributed widely throughout the country, and not be heavily concentrated in a few areas.

This would certainly have advantages, if it were practicable. Re-distribution would not reduce the number of people directly affected by a fall in exports, but it would certainly make the absorption of such people into other industries, easier. The ideal, from this point of view, would be for each region to contain only the average amount of

vulnerable industry (measured by percentage employed) and to have at the same time the average amount of industry capable of expanding for domestic use during the slump.

There are many people who want to go even further than this. We have conducted our analysis in terms of regions, but some argue even in terms of towns. They argue that their particular town, of say 50,000 inhabitants, is over-specialised and they urge their town corporation and the Board of Trade to try to promote greater diversification.

The over-specialisation of some towns, or other small areas, is a very serious problem which demands attention ; the problems of Barrow are a well-known example. Nevertheless, we have not taken the analysis as far as this, partly because the material is easily available for large regions but not for towns, and partly because, in one sense, regional over-specialisation is more serious than the over-specialisation of a single town, since the remedy, which is migration of workers or of industries between towns, is easier to apply if a region as a whole is well diversified, so that only short distance migration is required, than it is if there has to be long distance migration between regions. Once the regional problem has been considered, the next stage would be to break the problem down into towns and other small areas.

The fundamental difficulty in any study of the possibilities of redistribution is, of course, the fact that many industries are not mobile. Mining must take place where there are ores. Shipbuilding requires to be near the sea. Industries using heavy imported raw materials congregate at the ports. Other industries may be mobile in the sense that they do not demand any particular geographical environment, but may nevertheless be immobile in the sense that there are economies of geographical concentration which make it uneconomic to spread the industry throughout the country. Then there is the difficult problem of the immobility of skilled labour. It may be, for example, that lace can be made as efficiently in Swansea as in Nottingham, but the industry cannot be transferred to the former from the latter unless a sufficiently large nucleus of skilled labour will agree to move.

17. In practice what we have to consider is which of the more vulnerable industries might be moved from the more vulnerable regions, and which of the less vulnerable industries might take their place.

The vulnerability of industries is a product of the extent to which they are working for export, and the extent to which their exports fluctuate in a slump. The order of vulnerability, starting with the most vulnerable, is as follows :—

Engineering, metals, shipbuilding, vehicles, pottery, textiles, leather, chemicals, other manufactures, paper, glass, woodworking, non-metalliferous manufactures, brick, clothing, mining and food.

There is also a third factor in vulnerability, namely, the ease with which home demand can be expanded during an overseas slump. We know very little about this, but on the face of the matter, this factor is not likely to upset the order of vulnerability yielded by the other two factors.

The problem is whether it is practicable and desirable to move some of the industries that head this list out of the Midlands and the textile regions, and to move into those regions some of the industries at the bottom of the list. Let us first consider purely technical factors influencing location.

The engineering group of industries is one of the most widely distributed throughout the country. This can be seen in Table V, which shows for each industry, reading from left to right, how its workers are distributed by region. Table V also shows, in the bottom row, how the total insured population in the country is distributed by region, and we can see, for any region, of which industries it has more or less of its " fair share," by comparing the percentage it has of each industry with the percentage it has of the total population. Thus London has more than its " fair share " of the industries numbered 4, 5, 10, 12, 13, 15, 16, 17, and 18, and less than its " fair share " of the others. We can also see for any industry how widely it is distributed by comparing its regional distribution with the regional distribution of the whole population. In order to measure this, Professor Sargent Florence[1]

[1] See " The Selection of Industries for Dispersal into Rural Areas," *Journal of the Royal Statistical Society*, vol. cvii, 1944.

has devised the "localisation coefficient," and we give the localisation coefficient of each industry in the last row of Table V.

TABLE V

INDUSTRIAL STRUCTURE.
PERCENTAGE EMPLOYED IN EACH REGION, AT JULY, 1947

	London & S.E.	Eastern	Southern	South Western	Midland	North Midland	East & West Ridings	North Western	Northern	Scotland	Wales	Great Britain	Localisation Coefficient
1. Non-Metalliferous	19·6	7·4	3·1	3·5	9·2	9·2	9·8	13·6	10·2	6·2	6·7	100	0·11
2. Brick, Tile ...	7·6	5·3	6·1	4·7	17·4	14·0	11·0	10·2	7·1	11·5	6·0	100	0·21
3. Earthenware ...	2·9	0·1	0·8	1·6	84·2	4·7	1·0	1·5	0·8	2·0	0·3	100	0·74
4. Glass	22·8	1·1	0·1	0·1	10·9	2·9	16·9	30·3	8·2	5·2	1·5	100	0·27
5. Chemicals ...	24·3	3·9	2·2	2·6	5·4	4·7	8·6	26·6	8·6	8·7	4·5	100	0·16
6. Metal Manuft'rs ...	3·5	0·4	1·8	0·8	20·5	6·4	16·8	8·5	12·1	10·5	18·7	100	0·38
7. Engineering ...	18·2	4·8	3·1	4·3	14·2	7·4	11·0	17·1	7·1	11·1	1·7	100	0·11
8. Vehicles	22·2	6·3	10·0	8·7	18·2	7·4	5·1	10·8	2·6	6·1	2·7	100	0·19
9. Shipbuilding ...	10·2	2·0	10·2	7·0	0·1	1·1	3·0	16·0	21·9	24·7	3·7	100	0·30
10. Other Metal ...	26·5	3·5	2·3	1·7	28·7	4·7	8·2	12·4	2·9	6·2	3·1	100	0·23
11. Textiles	2·9	1·0	0·5	1·2	3·8	12·0	23·0	40·2	1·2	12·9	1·3	100	0·47
12. Leather	30·8	2·8	1·6	4·8	9·6	7·8	10·0	18·7	4·1	7·3	2·5	100	0·14
13. Clothing	25·3	5·7	1·8	3·9	4·4	15·2	11·5	19·5	4·7	6·2	1·9	100	0·19
14. Food	21·6	6·3	3·8	7·1	8·5	6·4	8·5	16·0	5·0	14·1	2·9	100	0·08
15. Woodworking ...	31·9	5·6	7·1	6·0	6·8	5·1	7·6	12·6	4·4	10·6	2·2	100	0·13
16. Paper, Printing ...	36·8	6·8	4·1	6·3	5·1	4·4	6·3	14·1	2·9	11·7	1·5	100	0·18
17. Other Manuf'r'g	38·9	5·2	3·0	3·8	11·6	3·2	4·5	17·4	2·7	7·7	1·9	100	0·21
18. National Government[2] ...	32·9	4·6	8·9	7·6	8·0	5·9	4·6	10·4	4·2	8·6	4·2	100	0·17
19. Total Insured ...	22·6	5·1	4·5	5·1	9·8	6·9	9·1	14·5	6·3	10·5	4·5	100	—

[2] This is the "insured" civil service of the central government.

As the localisation coefficients show, engineering is more widely distributed than any other industries in the country except food and non-metalliferous manufactures. The fact that the engineering group is already so widely distributed suggests that engineering does not need any particular geographical environment, and that it would be possible to shift some part of this group from more vulnerable to less vulnerable regions. Doubtless some of the constituent parts are tied, *e.g.* marine engineering, but much of this group is "foot-loose." A low localisation coefficient is also sometimes an indication that an industry is closely tied to local markets —the localisation coefficient of barbers is nearly as low as 0·0 —and when this is the case it is an indication, on the contrary of a low degree of shiftability. But there is no reason to think that this applies in engineering, except to repair work.

The most vulnerable regions, the Midland, the North Western, and the East and West Ridings, all have a larger proportion of engineering than they have of the total population. The difference is not very large, and would not be a cause for concern but for the fact that these regions have also more than their fair share of other vulnerable industries; the Midland of metals and vehicles, and the other two of textiles. Therefore, whether these regions should seek to reduce their share of engineering depends on whether they can get rid alternatively of their other vulnerable industries, and on whether there are some less vulnerable ones that can be imported in exchange.

Metal manufacture, in contradistinction to engineering, is one of the most highly concentrated industries in the country. The Midland region has a very big share, both of the heavy and of the light metal industries. The heavy metal industries are more or less immobile. The light industries (No. 10 in Table V) are much more widely distributed through the country, and a considerable part could be shifted into less vulnerable regions, such as Scotland, the Northern region and Wales, which are already centres for heavy metal manufacture. Exactly the same applies to the manufacture of vehicles.

Textiles are even more concentrated than heavy metal manufacture, though in this case the historical reasons for this concentration have now largely lost their force. There is no geographical reason why textile manufacture should not diminish in Lancashire and Yorkshire, and increase in some of the less vulnerable regions.

If some part of these industries moved out of the more vulnerable regions, what might move in to take their place ?

Let us start with the least vulnerable of all industries, the civil service. This is now one of the largest industries in the country, employing 650,000 insured persons in July, 1947. Much has been done to decentralise it in recent years, and, as Table V shows, its localisation coefficient is fairly low at 0·17. The Midland region has already nearly its " fair share " of this industry, but the textile regions have a lower share, in relation to population, than have any other regions. If further decentralisation is practicable, they have prior claims.[1]

The other relatively safe industries, in order of safety, are food, mining, clothing, brick, non-metalliferous, woodworking, glass and paper. Of these, mining, brick, non-metalliferous and glass, are tied to their raw material sources, and wood working is tied to local markets. This leaves only food, clothing, and paper as candidates for removal.

Food manufacture is the most widely distributed industry in the country, because much of it is tied to local markets. But the group also includes some fairly concentrated trades, such as the manufacture of cigarettes and of chocolate, which are much better represented in the safe regions than they are in the vulnerable ones.

The clothing trade is also very widely distributed, for the same reason, but at the same time much of it could be moved. The North Western and Yorkshire regions have already large shares. The Midland region, however, has much less than its fair share, and could claim some part of London's surplus.

[1] This suggestion is based on an analysis of the distribution of insured workers in the Civil Service. If figures were available for the distribution of the total employed in the Civil Service it might have to be modified.

Paper includes printing. The localisation coefficient is very low, but there is a marked concentration in London, and deficits in the Midland and Yorkshire regions, while the North Western share corresponds to population. It is very doubtful whether much dispersion is possible, unless London ceases to monopolise the book publishing trade. In many other countries there are flourishing centres of publishing outside the capital city, but in this country no such tradition exists.

The fact that there are only three safe industries is rather a blow to the idea of *exchanging* industries inter-regionally. The total insured population in the vulnerable industries of engineering, metals, vehicles and textiles, in the three most vulnerable regions, amounts to 1,840,000 persons ; while the total population in the three safe industries, in the seven safest regions, from which transfers might be made, amounts only to 860,000. Clearly there cannot be much exchange. If the vulnerable regions are to be made less vulnerable, they must shed vulnerable industries, with only a small intake of substitutes. In other words, these regions must contract in size.

18. So far we have considered only technical aspects of the problem. Now we come to the political aspects. They can be stated quite briefly.

First, the safe areas have to agree to receive vulnerable industries. The Northern region, Scotland and Wales are always crying out for new industries, and would no doubt be glad to take any that they could get. London, also is an " all devouring wen." It seems, however, to be agreed that London should not be allowed to grow any larger, so transfers would have to be on a strict basis of exchange. This is a pity, if it is seriously desired to diminish the vulnerability of the three worst regions, because London is the region most able to stand an influx of vulnerable industries.

Secondly, the safe regions must agree to lose part of their safe industry. This affects principally London, since the other safe regions have only very small surpluses.

Thirdly, the vulnerable regions must wish to get rid of part of their vulnerability. For example, the Midlands must

agree to give up some of metal manufacture, and Lancashire some of its cotton and engineering, and Yorkshire some of its wool. This is not quite the situation that is usually contemplated in these regions. The people ask that new industries should be brought in, and not that the old industries should go elsewhere. But, as we have seen, there are very few safe industries that are mobile. If regions are to be diversified into lower vulnerability, it will have to be mainly by contracting in size, and sending part of their staple industries to other regions in the country.[1]

Fourthly, the labour has to be willing to move to other parts of the country, or the policy cannot come into operation. If a ban is placed on opening new factories in vulnerable industries in vulnerable regions, there will be a slow contraction in these regions and a slow expansion elsewhere, but we shall have to wait a very long time for results. It is possible that labour will move if very elaborate arrangements are made to move entire factories and their workers, and if the housing arrangements are made so carefully that the community can be transplanted with little social dislocation. But this obviously calls for very bold planning.

This is the fifth and final problem, namely, that the administrative difficulties are immense. They are not beyond solution if the general public is in wide agreement with the policy. But no such agreement exists, or is likely to be forthcoming, until and unless a succession of slumps demonstrates clearly that this kind of diversification is worth its costs.

IV. Conclusion.

19. The conclusions of this paper are not pleasant. Section I shows that a slump is almost certain gravely to aggravate our balance of payments difficulties. Section II reaches the pleasant conclusion that we stand a good chance

[1] There can also be diversification by introducing new vulnerable industries for others. This may have some advantages, *e.g.* it may provide additional opportunities for surplus female labour. But it does not help to reduce vulnerability to a fall in exports, and this is the only kind of diversification that we are dealing with in this paper.

of weathering the slump of 1950 without serious unemployment, but sees formidable difficulties in the way of preventing subsequent slumps from putting very many persons out of work. And Section III holds out small hope of so re-arranging our industries that unemployment may be thinly spread and easier to tackle.

The truth is that the best way to avoid unemployment is not to have a slump. And this is specially true of a slump which attacks via the export trades. At the same time it is also true that we cannot control slumps that are generated in the United States. If that great country continues to be subject to big cyclical fluctuations, we can do little more than protest.

The little more that we can do is to try to persuade the United States to support one or other of the automatic systems for stabilising world trade which have been proposed. An international buffer stocks scheme would do the trick. So would a scheme for stabilising the value of American imports, *e.g.* by increasing government buying as private buying falls or a scheme for varying American government lending inversely with the value of American imports. The United States has taken the initiative, in recent years, in fixing the agenda of international economic discussions. She has protested vigorously agains the unneighbourliness of tariffs, bilateralism, international cartels, and what not, but has said very little about the vicious practice of exporting slumps. It is for the rest of the world to take the initiative for a while, and to insist that this, the greatest problem of all, should now take precedence over all other discussion, until effective safeguards have been devised. For the only fully effective treatment for an overseas slump is to stop it at its source.

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The Theory of Profit

The theory of profit is generally recognized to be one of the most unsatisfactory parts of economic doctrine. The purpose of this paper is to express some of the dissatisfactions aroused by a survey of theories about what Taussig once called " that mixed and vexed income."

There are two main types of theories which treat profit more or less analogously to wages and interest, as the reward for a productive function. (1.) There are those who hold that profit is the reward for bearing uncertainty (*e.g.* Hawley, *Enterprise and the Productive Process*, Pigou in Appendix I to *The Economics of Welfare*). Proponents of this theory often (though not always) attempt to apply marginal productivity analysis to uncertainty bearing. (2.) According to the second type of theory, the productive function which yields profit can be expressed in some such terms as initiating change, promoting economic progress, innovating, carrying out adjustments, or making new combinations (*e.g.* J. B. Clark, Schumpeter).

Both types of theory run up against at least two main difficulties: one analytical, the other institutional. The analytical difficulty is to fit an account of profit, which shows some analogies to that of other incomes, into the theory of income distribution. The institutional difficulty is to explain the allocation of profit in a modern industrial system with joint-stock companies, and to deal with the problems raised by the separation of ownership from management.

I. Profit and Other Incomes.

There are a number of *prima facie* reasons against treating profit analogously with other incomes.

1. Inasmuch as profits arise from conditions of disequilibrium, the equilibrium analysis applicable to other incomes must obviously fail. Professor Knight, for example, defines profit in one place as " the difference between any income as it actually is and what it would be in the theoretical position of general equilibrium of the economic system as a

whole."[1] Moreover, even if we could define profit in such a way as to allow for its existence in conditions of static equilibrium, such a concept would be irrelevant where there is positive net investment.

2. Connected with the first point is another: in the analysis of other incomes, we can often neglect the divergence between expected and actual returns. But if we connect profit with uncertainty, (which we must do, as we shall see, on both the uncertainty and the dynamic view), this divergence is fundamental and cannot be disregarded. Entrepreneurs' behaviour is based not on profits they *get*, but on profits they *hope for*. To assume away the difference between anticipations and realisations is to assume away the problem. In the case of other incomes, experience of the past is a guide to the future. Expectations can be based upon past realisations and a theory of realisations on the psychology of expectations. Uncertainty does not present any special difficulties where an objective[2] actuarial value can be assigned to the expectation, and where we can assume that people's errors will be corrected by experience. But there are anticipations to which people cannot assign numerical values: they may think that certain events are more probable than others, without being able to say by how much, and they may think that a large number of different, mutually exclusive, events are equally probable, not because they "know the odds" but because they do not. If they were made to allot a numerical probability to any one of these events, this would have to be misleadingly small for they do not, in fact, consider the event improbable. Or even if people can give a numerical value to the expected probabilities, they expect their estimates to change in the future and they expect to be able to change their plans accordingly. In other words, probabilities are often only *cardinally* and not *ordinally* estimated; and even where estimates take the form of a probability distribution, there is

[1] "Profit," Encyclopaedia of the Social Sciences.

[2] An "objective" estimation of probabilities is not, of course, one based on full knowledge, when probability would not arise, but one based, by an ideal estimator, on the knowledge available and verifiable by a large number of trials.

uncertainty about future probability distributions (if only because we know that the actual future event will transform a probability into either a certainty or an impossibility). But where plans cannot be adjusted to future changes in expectations, where decisions cannot be postponed—say because contracts have been made—expectations may be treated as if they were not subject to changes. Risks—at any rate subjectively estimated risks—may then be awarded marks and a semblance to a probability distribution may be achieved. But where risks are immeasurable for either of the above reasons : *i.e.* either absence of a numerical uncertainty scheme or presence of uncertainty about uncertainty schemes combined with flexible plans (the possibility of postponing decisions), past experience offers few clues to expectation and expectation no clues to actual income.[1] It might be possible, though it would be difficult, to develop a theory of the motivations of risk bearers which would explain expected profits, but it would be impossible to draw conclusions about actual profits from it.

3. Another aspect of the origin of profit in conditions of disequilibrium is this : if we define income as a *flow*, then certain types, or some aspects of, profit are not income at all, *viz.* those that are due to changes in the capital value of assets. Uncertainty gives rise to profits through the capital account, through changes in the value of assets.

4. The next difficulty is not peculiar to profit analysis but it is much more important for it. There are difficulties in speaking of an average rate of wages or an average rate of interest. But it is almost entirely unrevealing and meaningless to speak of an average rate of profit in the sense of an average rate of return for uncertainty bearing or for innovating. One must distinguish between an average of more or less accidental fluctuations and an average of permanently and fundmentally unequal quantities. A criticism, similar to that directed by Böhm-Bawerk against Marx's use of the idea of an average, applies here :

[1] *cf.* A. G. Hart, Risk, Uncertainty and the Unprofitability of Compounding Probabilities, Studies in Mathematical Economics and Econometrics.

> " We might just as well try in this way to prove the proposition that animals of all kinds, elephants and May-flies included, have the same length of life ; for while it is true that elephants live on an average one hundred years and May-flies only a single day, yet between these two quantities we can strike an average of fifty years. By as much time as elephants live longer than the flies, the flies live shorter than the elephants. The deviations from this average ' mutually cancel each other,' and consequently on the whole and on the average the law that all kinds of animals have the same length of life is established."[1]

5. There is the further difficulty of defining the factor of production for whose use profit is supposed to be the reward. The " entrepreneur," whether we look upon him as controller, as innovator or risk bearer, is *not* a factor of production like labour, capital equipment or land. We may define and classify factors of production either technically (*a*) as a group of necessary conditions of production ; or (*b*) as factors of " income production " : in this case classification is carried out according to sociological or other criteria common to any one group of income receivers ; or (*c*) as groups of commodities used to produce other commodities. Here, the criterion for the grouping should be substitutability.

Now the first or technical definition is not relevant for the purpose of value or distribution theory with which we are now concerned. There are many technical factors in the sense of necessary conditions of production, which are not supplied and demanded in markets : *e.g.* law and order, science and technique, or even consumers. All these are necessary pre-requisites of production, without being normally called factors of production. Nor is the second, or sociological, definition relevant for a theory which holds that profit is a functional income. If enterprise is taken to be a factor on these grounds, it would have to be shown that *entrepreneurs* form a significant class of people for some reason other than the fact that they are profit receivers. But such a definition would not be useful for

[1] Böhm-Bawerk, Karl Marx and the Close of his System, p. 79.

a theory of productive function, for there are clearly sociologically significant groups of income receivers who do not derive their income from supplying the same or similar goods and services. Are " units of enterprise " then a factor of production in the third and here relevant sense, *i.e.* a group of commodities or services used to produce other commodities, a group whose units are fairly well substitutable and are supplied and demanded in a market ?

There are two ways of attributing a demand and supply function to enterprise :—

(i) We may relate the time spent by an *entrepreneur* on his enterprise with the profits resulting therefrom. It would, however, be difficult to divorce this type of service from other types of labour and this income from wages of management.

(ii) The more common approach is to identify the firm with the *entrepreneur* and to consider his utility or productivity in relation, not to the firm, but to the *industry*. Profits for the firm will vary with the number of firms, and the industry will be in equilibrium when " normal profits " are earned. But in this case it is probable that (at least in some industries) pure profits (*i.e.* after the deduction of imputed rewards to the *entrepreneurs'* own labour and capital) will be negative, since many *entrepreneurs* prefer a somewhat smaller sum even if uncertain, if they can be independent, to a larger sum as employees.

It will be argued that it may be convenient to divorce the theory of *entrepreneurial* income altogether from the theory of profit.

II. The Uncertainty View of Profit.

Fundamental propositions of the theory.

Let us examine the first of the two views which consider profit as the reward for a productive function. On this view, the productive service is uncertainty bearing. We can, I think, discover the following fundamental propositions in these theories :—

First, it is better to " begin by defining profit and then identify the receiver of profit as the person who receives it "

than " to begin by identifying the receiver of profit and then define profit as the income he receives."[1] This at first sight puzzling statement means presumably that we should treat profit as a functional income : that we should find a productive function, analyse its returns and then discover who receives them. We are bidden not to proceed by making first the provisional assumption that we know what profit is (*e.g.* by accepting the ordinary meaning) in order to find out then what people do who earn profit and thus come to understand it better.

The second proposition of the uncertainty view is that profit is the difference between two prices, one fixed beforehand, the other uncertain.[2] The bearing of this uncertainty is the function in virtue of which profit is earned.

The third proposition states that uncertainty bearing is a disutility inherent in production and ultimately different from any other productive service.[3]

Fourthly, it is often tacitly implied that the supply of uncertainty bearing is limited only by its disutility (in the sense of unwillingness to sacrifice) and, in its pure form, contains no element of rent at the margin. None of these propositions is defensible. Let us take the last one first.

Is the supply of uncertainty bearing limited only by its disutility ?

The theory assumes that uncertainty can be borne in a vacuum. It ignores the fact that the risk bearers must have *something* to risk and that the supply of resources which can be risked is limited.[4] Elements of monopoly revenue enter into all forms of profit from uncertainty bearing where the supply of resources capable of bearing uncertainty is imperfectly elastic for reasons other than the disutility of increasing uncertainty. Thus the rate of interest may rise and limit investment, not only because lenders' risks increase, but also because borrowers may be competing for a limited supply of

[1] O'Brien, Notes on Profit, p. 11f.
[2] O'Brien, Notes on the Theory of Profit, pp. 13-14. Knight, *op. cit.*, p. 317.
[3] Pigou, Appendix I.
[4] Joan Robinson, An Essay on Marxian Economics, p. 58.

funds and bid up their price. Or again, borrowers are not prepared to borrow and invest as much as they would invest if the capital were their own. The increasing disutility of borrowers' risk bearing results in a monopoly revenue for those with large own capital resources. In the face of these inelasticities, a positive net return on an investment is no evidence for a positive reward for uncertainty bearing as such, but may be a rent (or monopoly revenue) on scarce capital resources which would disappear if resources which *could* be exposed to uncertainty were not scarce. The actual average level of profits, if any meaning can be attached to such an average, is therefore not a correct measure for the disutility of risk bearing, even in its neutral, positivist, sense.

Moreover, the probability distribution approach to uncertainty bearing is quite irrevelant where the resources of any given investor are small in relation to the amount risked at any given venture. If he loses all he has got, the probability that, had he repeated his venture many times he would have earned a positive return, is cold comfort. And the knowledge that repetitions are not possible will limit the supply of risk bearing resources. It is, of course, true that this limitation can be overcome by pooling, where risks are insurable. But the risks of enterprise which give rise to profits are not insurable.

Is profit best treated functionally ?

This, of course, is not a question of fact but one of convenience. An alternative possibility would be to start from the end of the person earning what is commonly called profit and to treat it not functionally but substantially or personally as that income which a certain type of person receives.[1] I shall suggest that this is the more realistic and helpful approach

[1] One can define the income of a teacher as the reward for inculcating in his pupils the habit of exact thinking. This would be a functional definition. The income of a man who is inculcating habits of muddled thinking would on this definition not be the income of a teacher. Alternatively, we can define " teacher " in such a way as to include those teachers who are inculcating the habit of muddled thinking. This would be a personal definition. For many purposes the " income of a teacher " in the latter sense would be a more interesting concept than in the former sense.

to the understanding of profit because it does not beg the question whether it is in fact the reward for a productive function.

Is profit always the difference between two prices, one certain, the other uncertain ?

Although it is true that profit often arises from the difference between two prices (or two sets of prices), it is not necessary that one should be certain, the other uncertain. In the first place, it is conceivable that both prices should be uncertain as in the case of a building contract where costs are uncertain and where a penalty clause is attached to the selling price. Secondly, it may be that both sets of prices are certain but there may be uncertainty about the amount to be bought or sold as in the case of a shopkeeper selling standard articles at fixed prices. Moreover, there are forms of income, or better, forms of gain, which ought to have some name and which are usually called profit but the origin of which is entirely free from uncertainty bearing. A speculator who has certain though private knowledge of the prospects of some shares will make what it is natural to call profit although we might also describe his gains as rent on superior knowledge. Or again, it is possible to argue with Machlup that indivisibility may lead to pure profit, even in the absence of any uncertainty.[1] One might object that this would be a clear case of monopoly revenue. This is, of course, partly a matter of definition. But in one sense it would be very artificial to describe as monopoly rent the earnings of a large indivisible unit of production which is protected from newcomers by the limitation of the market and the high cost of small outputs. True, from the point of view of the firm, its surplus receipts would be capitalized in the form of " good will " or some such asset. When the enterprise is sold, the surplus would be transformed into rent and the new owners would no longer earn profit. The asset of " having been first in the field " is only less tangible than, say, specific land or a scarce type of skill or a patent. But on the other hand, from the point of view of outsiders and potential rivals, the value of the indivisible

[1] Machlup. Competition, Pliopoly and Profit, Economica, 1942.

resources is their cost. The surplus of receipts over total cost cannot be imputed to any one of the assets or resources as it could be done, were the surplus earned as a result of a patent or a licence. The established firm is earning pure profit, a surplus above all costs and specific rents imputable to any particular scarce resource.

Is uncertainty bearing a disutility ?

This is the crucial problem of the uncertainty view. It will have to be discussed more fully than the other propositions. " Disutility," like " utility," may be interpreted in either of two ways : we may define it as unpleasantness, pain, discomfort ; or we may use it (following Pareto) in the behaviouristic sense of " anophelimity." " Disutility " in this second sense means that people are in fact compensated for bearing uncertainty. The first meaning is " real," psychological and quasi-moral ; the second is formal, positivistic and neutral. Let us look at each of those two interpretations of " disutility " and ask whether uncertainty bearing is a disutility in either of the two senses.

(i) *The " real " view of the disutility of uncertainty bearing.*

Those who hold the first view of " disutility " usually argue that people prefer a certain to an uncertain income, even although the actuarial value of the " expectation " of the uncertain income is equal to the certain income. They are said to prefer, *e.g.* 300 certain to a 50 : 50 chance of 600 or nothing.[1] Furthermore, they are said to act rationally in demanding a reward for uncertainty bearing.[2] Can these two propositions be defended ?

Uncertainty aversion as an explanation of profit.

The obvious objection to the statement that people dislike uncertainty is the fact that people often delight in adventure and gambling, even where they know that the odds are against them. The profits of football pools and lotteries provide some evidence but the game spirit and the desire to

[1] *Cf.* Pigou, *op. cit.* O'Brien, *op. cit.*, pp. 15-17.

[2] *Cf.* Knight. Risk, Uncertainty and Profit, p. 236, and Henderson, Supply and Demand, p. 110.

enjoy uncertain anticipations is much more widespread than in occasional gambles.

The reply to this obvious preference for uncertainty is this : though a small chance of a large gain together with a large chance of a small loss is experienced as pleasant (this is the lottery type of uncertainty), a large chance of a small gain, together with a small chance of a large loss, is experienced as unpleasant (hence the existence of insurance companies). This latter preference can be supported by an argument from the diminishing marginal utility of income. The next step in the argument of the upholders of this theory is that the type of uncertainty found in business ventures is of the second type.[1] Such an argument would, however, provide a very shaky basis for a theory of profit. There are at least four *prima facie* objections to such an assumption.

First, it is not enough to show that people *in general* behave like this. Since it is obvious that not everyone does prefer certainty to uncertainty, the class of *entrepreneurs* and speculators will be recruited in the first place from those who prefer (or do not dislike) bearing uncertainty. To point to the profits of insurance companies is thus irrelevant for an attempt to prove the risk aversion of adventurers. It is quite possible that at least some people with something to risk do not find the second type of uncertainty bearing unpleasant. The theory would have to show that the marginal *entrepreneur* or speculator dislikes uncertainty, which is much less obvious than that most people dislike it. Moreover, it is doubtful whether the concept of a marginal increment of uncertainty bearing is meaningful at all. Uncertainty bearing does not consist of homogeneous units supplied and demanded in a market. But even if uncertainty bearing could be subjected to marginal analysis, the tacit assumption that its supply is highly elastic is, as we have seen, quite unrealistic. Since the supply of those with anything to risk is limited, they may be earning rents over and above their supply prices. Thus it is probable that the " reward " for uncertainty bearing falls short of what

[1] *Cf.* Marshall, Principles of Economics, p. 613 ; Knight, *op. cit.*, 235-6 ; Henderson, *op. cit.*, pp. 106 *ff.*

the theory would lead us to expect, in some lines, where supply is elastic and people enjoy uncertainty bearing, whilst it may exceed the theoretical amount in lines where the supply is inelastic and monopoly rent is being earned. A theory of profit which ignores these divergences, so characteristic of profit, is quite inadequate.

Secondly, some types of investment may be more like gambling than like the risks against which we insure : they may involve the expectation of a large chance of a small loss, combined with a small chance of a large gain—a situation which people find admittedly pleasant and are prepared to pay for. (This may apply not only to such ventures as gold mining, but to any innovation involving low additional costs with prospects of profits whose capitalized value is large.) This type of income should be accounted for by an exhaustive theory of distribution.

Thirdly, even if it is true that uncertainty bearing is unpleasant, there may be other, non-pecuniary, rewards for those who shoulder it. Here, as in so many other instances, there are more than two margins of choice. The small *entrepreneur*-owner may be compensated in the form of independence, social status, prestige and power as well as, or instead of, higher profits. The inactive shareholder, on the other hand, may have little choice between shouldering greater or smaller uncertainty, apart from being able to sell his shares and buy others. It is most unlikely that corporation officials even attempt to equate their shareholders' disutility of uncertainty bearing to expected returns. Although this is likely to result normally in fewer risks being taken than shareholders would be willing to shoulder, it is quite possible that managers (who might have little to lose and much to gain) embark on gambles for which the shareholders would have shown distaste, had they been consulted. Thus shareholders may derive part of their " compensation " for uncertainty bearing in the form of the satisfactions of their policy makers.

Finally, even if the logic and psychology of the theory are correct, it can at best account for *expected* profits which alone are relevant for motivation. But, as was noted before,

the divergence of anticipations from realisations is of the essence of gains arising out of uncertainty, and a most elegant theory about expected profits may be quite irrelevant for actual profits. Even if uncertainty bearers were found to draw up numerical probability distributions and, if one likes, probability distributions of different probability distributions, there is no reason why the values of their expectations—if values can be assigned to them—should correspond to actually accruing profits. The way to test a probability distribution is to make numerous trials. But frequently, there are no opportunities or no resources for numerous trials in similar circumstances. Moreover, it is probably more realistic to assume that uncertainty bearers do not think in terms of probability distributions at all. They may indeed attach varying degrees of likelihood to different outcomes. But these estimates are often not cardinal but at best ordinal and actuarial values are irrelevant. A theory of uncertain expectations should attempt to explain the significance of expectations about, *e.g.* the most probable outcomes, about somewhat improbable but very attractive or very disastrous outcomes, etc. A separate theory would then be required to explain, if an explanation is possible, *ex post* profit. Although the former theory may have some bearing on the latter, it would certainly be wrong to believe that the former is identical with the latter.

The rationality of uncertainty bearers.

The second difficulty encountered in the argument of the exponents of the " real disutility " view was the conviction that *entrepreneurs* act rationally when they demand a reward for uncertainty bearing. It illustrates well how a dubious psychology of expectations is mistaken for a theory of actual profits. The argument consists of two steps. First, it is held that it is rational to demand a reward for uncertainty bearing over and above an estimated actuarial value.[1] Secondly, it is asserted that people do in fact act in this way (which has been defined as " rational ") in the face of uncertainty.[2] Then the conclusion is drawn that we should expect to find higher

[1] Henderson, *op. cit.*, p. 110.

[2] Knight, *op. cit.*, p. 236 ; Henderson, *op. cit.*, p. 111

average profits in more risky ventures over a sufficiently long period of time.[1] Each link in this argument is very weak. We have seen that the estimation of an actuarial value is likely to be subjectively irrelevant and objectively meaningless. Yet, it may be true that it is rational to demand compensation for the possibility of losses at an increasing rate. But the whole question of rational behaviour in conditions of uncertainty is tricky. It is well known that the attempt to get what we want does involve, on the one hand, the elimination of uncertainty, but that we would, on the other hand, probably be miserable if we succeeded in eliminating all uncertainty. Above certain minimum requirements, interesting experiences are more important to us than the assurance of greater satisfactions from enjoying goods. Anticipation and action in conditions of uncertainty constitute some of the most interesting experiences. There is nothing irrational in desiring and enjoying the excitement of such experiences. Although such behaviour may not easily be fitted into a system of narrowly defined consistency (or rationality), it is directed towards an end which economists should take as " given " as they do with other ends.

Even if we accept the opinion that it is rational to demand a reward for the nuisance of uncertainty bearing, there is little reason to believe that people do in fact behave like this. It has been pointed out at least since Adam Smith that people in general and *entrepreneurs* in particular tend to over-estimate their own luck and the value of their opinions about the future.

[1] It is difficult to square this argument of profit theory with some of the arguments of the new welfare economics, though both are occasionally advanced by the same people. Those who hold that compensation of the losers is a sufficient condition for an improvement in welfare forget, amongst other things, that it may be illogical, unjust and unwanted to compensate those for losses whose contribution to production is the bearing of uncertainty. *Entrepreneurs* and speculators would be in the happy position of " heads I win, tails you lose." Moreover, profit earners may be quite prepared to bear uncompensated losses if they were also given the opportunity of gains without having to compensate (actually or even potentially) the losers. Those who buy tickets in lotteries may know that the prizes are insufficient to compensate all purchasers of tickets and they may yet be willing to shoulder the risk. Thus the requirement of compensation may reduce welfare in certain respects which are not allowed for.

> " The overweening conceit which the greater part of men have of their own abilities, is an ancient evil, remarked by the philosophers and moralists of all ages. Their absurd presumption in their own good fortune, has been less taken notice of. It is, however, if possible, still more universal. There is no man living who, when in tolerable health and spirits, has not some share of it. The chance of gain is by every man more or less overvalued, and the chance of loss is by most men undervalued, and by scarce any man, who is in tolerable health and spirits, valued more than it is worth."[1]

Clearly, it will not be those whose anticipations are correct, or more correct, who will be the first to take risks, but those who are over-optimistic. Businessmen are not academic weighers of pros and cons. We should expect the judgment of those actually embarking on a venture to be biassed in the direction of sanguineness. Their reward is therefore likely to be systematically disappointing. (We assume, for the moment, that the actions of the uncertainty bearers do not affect their anticipations.)

This does not, of course, mean that there are not times when uncertainty bearing is felt to be most irksome by almost everybody : not only because our "health and spirits" may have declined since the days of Adam Smith ; the provocations for over-optimism may have disappeared and depressing, as well as cheering, opinions are infectious. When general gloom prevails, those will venture who are relatively less pessimistic than others. It may then be necessary to offer an excessively high reward before *entrepreneurs* are ready to risk their resources. Rewards may then appear which are pleasant surprises. But this only confirms the general argument that there is no systematic relation between the disutility of uncertainty bearing and its reward. The modern equivalent to Adam Smith's view of the irrationality motivating risk bearing is expressed by Keynes :—

[1] Adam Smith. The Wealth of Nations, ch. 10, Part I.

> ". . . there is the instability due to human nature that a large proportion of our positive activities depend on spontaneous optimism rather than on a mathematical expectation, whether moral or hedonistic or economic. Most, probably, of our decisions to do something positive, the full consequences of which will be drawn out over many days to come, can only be taken as a result of animal spirits—of a spontaneous urge to action rather than inaction, and not as the outcome of a weighted average of quantitative benefits multiplied by quantitative probabilities. Enterprise only pretends to itself to be mainly actuated by the statements in its own prospectus, however candid and sincere. Only a little more than an expedition to the South Pole, is it based on an exact calculation of benefits to come."[1]

Self created uncertainties.

A third objection to the view that the " real " disutility of uncertainty bearing is a productive function arises from the fact that many uncertainties which give rise to profit (and loss) are not natural uncertainties, but are self-created. This presents us with two difficulties : First, we would hesitate to call an activity directed at benefiting from a self-created nuisance a productive function. More of this in the discussion of the second, or dynamic type of theories. Secondly, if the evidence on which my estimate is based is itself not independent of my estimate (say, because my opinions will influence those of others whose actions are relevant to my estimate), no objective estimate is possible in principle. The evidence becomes a function of the bias or neutrality of the forecaster and an oligopoly-like indeterminancy arises. Undue over-optimism may create conditions which transform it into justified optimism and equally pathological gloom may justify itself. In this case, profits are not a systematically disappointing reward. Those whose opinions spread are always proved right. Their optimism diminishes risks, their pessimism creates them and profits will indeed in such conditions correspond

[1] Keynes. General Theory, pp. 161-2.

to expectations, not, however, because expectations correspond to the facts but because the facts accommodate themselves to expectations.

It has not been shown that uncertainty bearing is a disutility in the sense of unpleasantness for those who shoulder it nor that it is a productive function. Some incomes, usually called profit, and to be accounted for by a comprehensive theory of distribution are not earned in virtue of a reluctance to bear uncertainty either because there is no significant uncertainty to be borne or because there is an inclination to bear it. There is a presumption that those who embark on ventures act " irrationally " (on the conventional but not acceptable definition of " irrationality "), frequently by over-estimating the chances of their success. In other words, some people may not be so averse to bear uncertainty as the theory assumes and uncertainties borne may be subject to systematically biassed expectations. The theory is at best an account of *expected* profits which in the nature of the case diverge from actual profits except in some cases where uncertainties are self-created and expectations self-justifying. But this case is probably least amenable to treatment by the theory.

(ii) *The formal view of the disutility of uncertainty bearing.*

The second meaning of " disutility " is, as we have seen, less colourful and more non-committal. We are not now concerned with psychology and motives. The disutility of a venture is defined and measured by the extent to which it is *in fact* rewarded (paid for). The crucial task of this theory is to show that uncertainty bearing does, as a matter of empirical fact, yield a positive net return. Once this has been proved, the disutility of uncertainty bearing follows by definition and not by an argument from effect to cause. It is, however, by no means evident that the profits of successful firms have in fact been greater than the losses of unsuccessful ones. On the contrary, the argument from over-optimism and the argument of the value of prestige and " being one's own boss " suggest the existence of losses rather than profits, on balance. This is confirmed by inductive

studies of *small* firms (*e.g.* retail shops).[1] *Large* firms are, as we have seen, likely to receive a part of their earnings as monopoly revenue and thus escape the fate of smaller firms, especially since their larger own capital allows them to reduce their gearing ratio and thus to reduce risks. Their positive net returns are no proof of positive net earnings from uncertainty bearing.

(iii) *Conclusions.*

One may conclude that the view that profit is the reward for the disutility of uncertainty bearing, however we interpret "disutility," is not very helpful. The theory postulates (on one definition) that uncertainty bearing is unpleasant and is a productive service, it postulates (on the other definition) that it is rewarded, asserts a connection between the uncertainty bearing and the reward and defines the latter as profit. Stripped of unwarranted postulates, the theory amounts to the proposition that profit is the reward for uncertainty bearing where uncertainty bearing is rewarded, loss is the penalty of uncertainty bearing where uncertainty bearing is penalized. But to say that where there is uncertainty there is the opportunity for profit and the danger of loss is not a theory of profit but a self-evident proposition, like the statement that the rate of interest depends upon the passage of time. So much about the uncertainty view of profit.

III. The Dynamic View of Profit.

Another group of theories link profit with the initiation of change, which is taken by some to be a productive function *sui generis*, entirely different from risk bearing. Thus Schumpeter says : "The *entrepreneur* is *never* the risk bearer."[2]

Now it is not obvious that this theory, the main exponent of which was J. B. Clark, differs in essence from the uncertainty theory. Professor Knight has criticized it on the ground that profit cannot be the reward for change as such. Only change whose outcome is uncertain and therefore not predictable gives rise to profit.[3] This is a weighty objection to the claim

[1] *Cf.* Knight, *op. cit.*, p. 365.
[2] Schumpeter. Theory of Economic Development, p. 137.
[3] Knight, *op. cit.*, pp. 35-38.

that the theory of innovation presents something very new. It is, however, not only the unpredictability of change that may result in profit but also the fact that not all change, though predictable, is in fact predicted. Even predictable change may give rise to profit if it is not in fact predicted by everybody concerned or if not everybody is equally willing to make use of his foreknowledge. We might all be in a position to ascertain that there is a gold mine on a remote South Sea Island, without all of us actually troubling to acquire that knowledge ; and of those of us who do acquire the knowledge, some may not be sufficiently quick in making use of it. Those who do make use of it earn what we would naturally call " profit," though it may be rent or wages from some points of view. It is, of course, true that in conditions of perfect competition the initiation of predictable and correctly predicted change does not yield profits. But the absence of profits is then implicit in our assumptions.

Although the theory of the initiation of change can thus be seen to resolve itself into a theory of uncertainty and a theory of frictions, its peculiar flavour comes from its stress of the rôle of profit in economic progress. May it not be the reward for a peculiar type of uncertainty, *viz.* that arising from economic development ? Would it not then indeed be the reward for an important productive function ? Against this it has been pointed out (*e.g.* by Veblen) and admitted by some advocates of this theory (*e.g.* Schumpeter) that the initiation of change need not be the initiation of economic progress. The change may be directed at monopolizing production or sales and restricting output, at spreading rumours and profiting by the expectations thus created, at making adjustments to self-created maladjustments, at robbing Peter to pay Paul. Profits earned in these ways should not be excluded from a theory of profit. An income which is earned not as a result of the creation of utility for others but by the creation of disutility for whose removal others are prepared to or are made to pay is not, of course, a peculiarity of profits only. Creators of nuisances such as organ grinders or blackmailers may supply labour services and earn wages

for the removal of self-created dis-services. But it is difficult not to suspect that the artificial creation of uncertainties, of maladjustments and of scarcities gives rise to profits more naturally than to any other form of income, and that there is more scope and greater temptation (even if not greater inclination) among profit-earners than amongst other income groups to become profiteers.

IV. Conclusions.

The problems which have hitherto been discussed in the " theory of profit " fall into two quite separate classes each of which we should expect to be covered by a different theory. On the one hand, we should want to know how certain decisions are taken in the face of an uncertain future. This may be called the " *ex ante* theory of profit " although it may turn out to have very little bearing on the explanation of actual profits. A better name for it may be " theory of expectations." On the other hand, we should want to know something about *ex post* profits. It is unfortunate that the industrial *entrepreneur*, the businessman has been taken to be the paragon of an uncertainty bearer. The nearest approach to gains and losses arising from uncertain expectations can be got in the earnings of speculators. Their behaviour, if anybody's, should form a link between a theory of expectations and a theory of gains resulting from them. If we call " profit " gains arising from uncertain conditions, the speculator is the profit earner *par excellence*. Such a view would have the following advantages :—

First, the typical profit earner would be a person in whose earnings wages of management are not mixed up with profits. Although speculators' profits are not pure (a pure theory of *ex post* profit is impossible), they are at least purer than the earnings of industrial *entrepreneurs*.[1] The theory of the gains and losses of speculators (including gamblers, betters and hedgers) would be an approximation to a theory of earnings arising from uncertain expectations.

Secondly, one would not have to beg those technical, quasi-moral and welfare questions which tend to confuse

[1] L. M. Fraser, Economic Thought and Language, p. 394.

discussions when productive functions are attributed to profit earners. Thirdly, this approach would be more comprehensive than an account of profit as the earnings of industrial *entrepreneurs* because it would cover both profits earned by " business methods " and by " production methods " in Veblen's sense of these terms.

There is no necessary correlation either between the degree of uncertainty and the amount of profit arising from a speculator's actions, or between the initiation of new technical developments and speculators' profits. Speculation may be socially undesirable, it may be disequilibrating and may aggravate maladjustments rather than reduce them, and yet profits may be earned by some (and, of course, losses incurred by others). Speculators' actions are best understood, not as contributing to the process of production, but as attempts to anticipate future market conditions, to benefit from buying low and selling high.

There is probably nobody who earns nothing but pure profit, except, possibly, the lucky recipient of a sheer windfall. The earnings of *entrepreneurs*, dealers and speculators contain elements of wages on labour services, interest on their own capital, rent on naturally scarce resources such as ability, and monopoly revenue from artificially created scarcities. If it were possible to impute the appropriate amounts correctly, surpluses would remain, windfalls which may be positive or negative and which could be described as pure profit. But these various earnings are not separable or clearly distinguishable. The isolation of pure profit is a will-o'-the-wisp.

A theory of actual profit (and of what is commonly meant by " profit ") would have to do more than relate the results of behaviour in the face of uncertainty. Having rejected the treatment of profit as symmetrical with other productive services, we are entitled to define it in gross terms. It can include all the various elements or aspects mentioned above, as long as the earnings arise from buying and selling at an advantage (always allowing for changes in the value of assets owned). (Commissions which are earned where both buying and selling

prices and quantities are fixed would appear to be profit on this definition but are really wages.) Thus, a part of the total receipts or certain aspects of the total receipts may be described as wages in so far as they can be attributed to labour or as rent in so far as they can be attributed to differential advantages, but the total can also be called profit, in so far as it arises from a successful market operation. Profit, on this view, is not a net income after wages, interest, rent and monopoly revenue have been deducted, but it is *a way of looking at income* which may simultaneously be wages, interest, rent or monopoly revenue. It must be admitted that it is a very impure way of looking. This view of profit also links up naturally with the theories of monopolistic competition and the analysis of profit in terms of monopoly revenue, due to restricted entry, increasing risks, differential advantages such as superior knowledge, patents, or licences and indivisibilities. Profit, looked at from another angle, is often a surplus of the nature of rent over and above the payments necessary to recruit the necessary productive services. Thus indivisibilities for example which give rise to profit may be looked upon as scarce assets, earning rent above their opportunity costs ; or they may be considered to create an obstacle to newcomers through the greater uncertainty about the demand conditions for large additions to output and the reduced willingness to bear uncertainty because investment requirements are larger. This approach draws also attention to the institutional sources of profit, the causes of varying supply elasticities of profit earners in different lines.

The allocation of profit in the modern institutional set-up between owners and managers does not present any special problems : it is determined, not by the principles of marginal productivity which are valid in static conditions of perfect competition, but by institutional arrangements, natural and artificial scarcities, and by luck. In so far as managers earn fixed salaries, we cannot treat them as profit. This is a disadvantage. But it is probably wise to separate a theory about *entrepreneurs* from a theory of profit. We may describe the *entrepreneur, e.g.* as the person who controls production,

co-ordinates decisions and initiates change—whether his income is contractually fixed or not. If it is fixed, he would be an *entrepreneur* without earning profit.

In the old days, when political economy was still polluted by its contact with reality, J. S. Mill looked upon profit as an aggregate of three elements : interest on capital, wages for management and reward for risk bearing. Then a process of purification began. Bagehot in England and Walker in America threw out the interest element and separated the income of the owner from that of the *entrepreneur*. Hawley threw out the wages element and the reward for risk bearing alone was left to account for profit. J. B. Clark, Knight and Schumpeter, each with a different emphasis, threw out the reward for risk bearing. But although they approached a residuum view of profit, they were still optimists and thought of profit as a necessary incentive for some function of promoting economic progress. When this last relic of a productive function is thrown out, we are left with profit as the gain from (intentionally or unintentionally) successful market operations. We are free to return to a view of profit as an aggregate, like J. S. Mill's, or to become agnostics. Agnosticism is not a theory of profit. But it may clear the ground for such a theory.

Appendix on Uncertainty Bearing and Taxation.

This section is a digression on what appears to be another unwarranted assumption about the psychology of uncertainty bearers. It is often argued that a proportional income tax will shift an investor's preferences from uncertain lines of investment to safer lines. For the present purpose I assume, notwithstanding the argument of the rest of this paper, that uncertain expectations can be treated as probability distributions. Uncertainty will be looked upon as measurable risk, as in Professor Pigou's Appendix I. (If this assumption is dropped the outcome is less determinate but some considerations mentioned above suggest that the argument of this section would hold *a fortiori*.) The following additional assumptions are made : Perfect competition is thought to prevail in the investment market. Attitudes to risk bearing are given and

not affected by the imposition of the tax. The tax is a proportional income tax. Finally, "investment" will mean primarily "financial investment" unless otherwise stated. Investment in paper assets is more easily diversified (hence adjustments to different degrees of risk are easier), it is more easily divisible and marketable. But analogous principles apply to investment in real assets.

The impact of an income tax on the willingness to bear risks can be divided into an income and a substitution effect. It is not obvious in which direction the income effect will work. The tax will reduce income. Lower income may reduce or increase the willingness to bear risks. The investor may feel that with his income reduced, he can no longer afford to take risks. On the other hand, he may think that he can no longer afford *not* to take risks, where greater risk is expected to yield higher returns. Risk taking may thus give him a chance to restore his income to the previous level. This effect will be especially strong if the tax reduces his income below the minimum necessary to keep alive and if risk bearing offers at least a chance of survival. A conventional standard of living which the investor wants to maintain at all cost will lead to similar results. There will be some tendency to greater risk bearing whenever the attractiveness of marginal income to be gained has, as a result of the reduction in income, increased more than the difference exercised by the fear of losses of now more valuable marginal income. There will be a reduced willingness to bear risks if the possibility of losses (or insufficient gains) is a sufficiently strong deterrent to risk bearing at the now lower income. The mere fact that the utility of marginal income has increased does not tell us by itself how the investor will react. Some may think it foolish to gamble with a small income, though perfectly legitimate with a large one; others may think it imperative to take risks if there are no other ways of achieving a tolerable income.

In accordance with the substitution effect an investor would shift from risky to safer lines if a tax is imposed that discriminates against risky investments. It has often been taken for granted that a proportional income tax would thus

discriminate, making the State a " partner in gains but not a partner in losses." The following two quotations illustrate this view :—

> " Income taxes . . . in the buiness man's language . . . make the State a partner in profits, when the investment turns out to be a financial success, but not a partner in losses, in case of failure. They thus reduce the reward of risk-taking without reducing risks. This argument has often been contested on the grounds that income tax reduces the net returns of all investments equally and that a person with £100 of savings will thus suffer the same percentage reduction, whether he uses his savings on a safe or on a risky venture. But it is not the percentage reduction that matters, it is the absolute reduction. Assume the standard rate of income tax to be 10s. in the £. An investor contemplates putting £10,000 into a risky venture which he expects to yield twenty per cent. profits, or £2,000 a year. Taxation reduces this amount to £1,000 net. He concludes that if all goes according to expectations he will have earned profits equivalent to his initial outlay in ten years. If there had been no tax on profits, his profit would have amortized his investment in five years. The risk he incurs is largely a function of the length of the engagement, and income tax increases the length of the engagement."[1]

Mr. Hicks argues like Mr. Schumacher :—

> " Let us suppose that a firm is considering the installation of some new equipment, which will cost £10,000 to put in. It is in a position to borrow the capital which will be needed, but will have to pay 5 per cent. on the loan. Then no profit will be earned on the installation unless the net additional earnings (after allowing for depreciation) are more than £500 per annum. But the equipment will not necessarily be installed if the prospective earnings are greater than £500. There is always a chance that less than £500 will in fact be earned, in which case the investment will prove to have been a

[1] E. F. Schumacher, in The Economics of Full Employment, p. 94.

> mistake and a source of loss. Consequently it will not in fact be worth while to undertake the installation, unless there is sufficient prospect of gain (by the achievement of net earnings above £500 per annum) to outweigh the risk of loss (by earning less). It may be that a probable return of £600 per annum (leaving £100 after paying interest on the loan) would be considered to be sufficient to offset the risk. At any rate there will be some such figure which will do so. But since earnings above £500 will be liable to income tax, this margin has to be calculated after income tax has been allowed for. If the rate of income tax is 5s. in the £, the actual prospective yield has to be £633 before it will be worth while to make the investment. If the rate of income tax is 10s. in the £ the necessary yield rises to £700. Now there will be many kinds of business which will offer a prospect of something corresponding to the lower figure, but which could not be undertaken if the higher figure had to be covered . . . High rates of income tax do have a very deterrent effect upon enterprise, and consequently a very depressing effect upon industry generally."[1]

It will be useful to distinguish between two cases: First we shall ignore capital gains and losses and borrowing. Uncertainty prevails only about the amount of the expected income which can, at worst, be zero. Secondly, the possibility of capital gains and losses will be included in the investor's expectations.

If changes in the capital value of assets are ignored while their yield is uncertain, a tax reduces risky income in the same proportion as safe income. What matters for decisions to change the amount of risk bearing undertaken is the alternative yields of less risky investments. But they, too, are reduced by the tax. It is therefore not obvious that risk bearing will be discouraged even quite apart from income effects. Going back to Mr. Schumacher's illustration, assume that an investor has £10,000 to invest. He is faced with two

[1] J. H. Hicks, U. K. Hicks, L. Rostas. The Taxation of War Wealth, p. 193.

alternatives : either to invest it in a risky line where his income may be £2,000 a year or (say) nothing with a fifty-fifty chance. Or he can invest it in a safe line at (say) 4% and be certain to get £400. Assume that a risk premium of 150% of the certain income is just sufficient to induce him to invest in the risky line. Now assume that an income tax of 50% is imposed. His net returns on the risky investment will now be either 1,000 or nothing with a fifty-fifty chance, *i.e.* an actuarial value of 500. On the safe investment he will get 200 net. His risk premium is still 150%. If the amount of uncertainty bearing and his attitude to it have remained unchanged, there is no reason to expect a shift away from the risky line.

To this Mr. Schumacher and presumably others would reply that it is not the proportional difference but the absolute difference which is decisive. This difference was 16% before the tax (2000 — 400 = 1600) and is only 8% after the tax (1000 — 200 = 800). Sixteen per cent. were just sufficient to induce the investor to shoulder the risks, eight per cent. are not enough. Mr. Schumacher argues that the reduced net income entails a longer period of amortization and hence greater uncertainty without a compensating increase in expected yield ; that it is the percentage of capital, not the percentage of safe alternatives, that matters to the investor.

Now this argument refers to losses of capital as well as losses of income, which cannot, in the case of shares, be separated. In so far as income only is concerned one must remember that the length of the period of waiting for a return equal to the original outlay would be increased by much more for the safe investment than for the risky investment. In our example the investor would have to wait 25 years for getting back the outlay on the safe investment if there is no tax, and 50 years if there is a 50% tax (disregarding compound interest). Is it obvious that if he initially just preferred five years' waiting on a risky venture to 25 years in a safe line, he must, after the imposition of the tax, prefer 50 years' safe waiting to 10 years' risky waiting ?

Those who would answer " Yes " to this question would argue that although both the period of amortization for the safe and for the risky investment will be increased, the more distant future is less predictable than the nearer future. A higher risk premium will therefore be demanded than before. This argument requires, however, at least three qualifications. First, it may be inconsistent with the probability distribution approach. If a series of ventures in the future is considered in the light of a probability distribution, the longer the period and hence the greater the number of trials, the closer will the result approximate the actuarial value of the distribution. A short period, comprising only one trial, will be entirely a matter of good or bad luck, whilst a longer period will tend to eliminate those elements of chance. A longer period may thus yield more easily predictable results than a short period. It remains, of course, true that any *given* period is more easily predictable if it lies in the near future than a similarly long period which lies in the distant future. (Sales in a month are more easily predictable than sales in a day ; but sales on a day now are more easily predictable than sales on a day in a month's time.) But this is only because " other things " and hence the probability distribution are expected to change.

Moreover, it is assumed that the prolonged period of greater uncertainty bearing will increase disquietude without increasing the pleasant excitement of the anticipation of greater gains. Even if we grant that uncertainty bearing itself is not pleasant (though it obviously is for some people at some times) the pleasure of anticipating possible gains is extended over a longer period. Though expectations of gains in the more distant future may yield less pleasure than nearer gains, there is *some* enjoyment to be derived from looking forward.

The second qualification is that an investor need not be irretrievably committed to his investment for the whole length of the period of amortization. He can sell his asset earlier. This may involve a capital loss (about which more will be said below), not only because the prospects of the asset may have deteriorated but also because potential buyers may not share the optimistic views of the seller about its prospects.

Although this argument is not one on the point of expected changes in *income* only, it may be noted that the fear that assets may have to be sold prematurely at a loss may be offset by the hope that they will be sold at a profit. It has been argued that, as the anticipated possibility of losses increases, it has to be compensated by a more than proportionate increase in anticipated potential corresponding gains. Even if this is psychologically correct, the actual risk reduction will depend upon the availability of less risky investments. But even money is a very risky investment if a possible rise in prices is anticipated. In a period of inflation, it is better to hold a risky asset, even if income tax is very high than to hold money.

Thirdly, the argument that a longer period of amortization is a deterrent to risky investment is valid only if depreciation allowance is not exempted from tax. We may, therefore, conclude that only if the more distant future is more uncertain than the near future, if this uncertainty has a net disquieting effect, if the fear of illiquidity is greater than speculative hopes in connection with marketable assets, if depreciation allowances are taxed and if income effects working in the opposite direction are sufficiently small, can we expect a tax to reduce the supply of uncertainty bearing. Even then, it must be remembered that reduced risk bearing need not increase safe investments. Since the attractiveness of saving (except in liquid form) has also been reduced, it may entail disinvestment into consumption. A tax may discourage saving and only incidentally risk bearing.

This discussion has suggested that certain tacit assumptions about the elasticity of demand for risky investments have been made—similar to those about the orthodox supply curves of labour and savings. On different elasticity assumptions, higher income offered may result in less work, a higher rate of interest in reduced savings, and a higher risk premium in reduced risk bearing. Apart from this neglect of income effects, insufficient attention has been paid to the way in which alternatives are affected by the tax. Although risks to be borne until amortization may be increased, the disutility of

waiting on the available alternatives is increased too. The correct measure for the investor's sacrifices involved in risk bearing is the amount of income which he would have obtained, had he invested in a safe line. This is the time-honoured doctrine of opportunity cost. Since the yield of this alternative is also reduced (though not, of course, the return from consumption or the liquidity return of cash or liquid assets, it is not obvious in which direction the balance will be disturbed. The state is indeed, contrary to the businessman's view, a partner in profits when the investment is a success and in losses when it is a failure. (Losses mean here only *relative* losses, *i.e.*, compared with safe returns. The question of absolute losses will be discussed below.) The measure of a loss is what we would have had, had we not lost. Since the tax reduces this hypothetical quantity, it is, in a sense, a subsidy to losses : we are spared having to pay tax on them. Consider the extreme case of an income tax of 100%. Total income from both risky and safe investment would go into tax payments and net income would in either case be zero. There appears to be no reason for a shift to safe investments.

The obvious objection to this is that a capital sum has value not only as a source of income (in which case a 100% income tax would reduce its value to zero) but also as cash—to buy goods. We would therefore prefer to have the money, even though it yields no returns, to the risk of losing it. Does this argument prove that a tax will encourage a shift to riskless investments which yield their return in the form of liquidity ? I do not think so. The argument neglects the fact that where there is a risk of capital losses there is also the possibility of capital gains. If we assume capital gains not to be taxed and risky assets to continue to be valued and exchanged in a stock market in spite of a 100% income tax, they hold out the promise of gains, as well as the threat of losses. In times of high taxation, the only way to " make money " may be by gambling on the Stock Exchange.

If we allow for expectations about changes in the *capital* value of assets, the following questions arise which are relevant to changes in risk bearing : (*a*) Are capital gains taxed or not ?

(*b*) If they are taxed, is it possible to deduct capital losses from other (riskless) income and thus reduce tax liabilities ?

If gains are not taxed, it is again not obvious that an income tax would discourage risk bearing. The diminishing marginal utility of income suggests on the one hand that there will be an asymmetry : Losses will be more deterrent than gains of the same money amount ; but on the other hand, the reduced income may make possible capital appreciation more attractive. Moreover, people may enjoy taking risks. The conclusion is that although it is true that the liquidity returns of safe investments are not affected by an income tax, this need not entail their substitution for riskier ones because possible appreciation of the latter is not affected either.

Even if capital gains are taxed (or if the distinction between income and capital is blurred and taxes fall at least partly on changes in capital values), this does not mean that " the state is not a partner in losses." If the investor can deduct his losses from other income before tax is assessed (because he has such other income and the tax laws permit it), the state in effect subsidizes those losses. This can best be illustrated by a situation where the investor receives a safe income in addition to a risky income. Assume that his safe income is £1,000. He also faces the possibility of gaining or losing £200 in a risky investment. An income tax of 50% would reduce the possible gains to £100. But if he suffered the loss of £200, his safe income before tax would be only £800, his net income after tax £400, which is only £100 less than £500, the income which he would have had, had he not invested in the risky line. The net loss is therefore only £100. The state is a partner in his losses. It is impossible to predict the investor's reactions in the composition of his assets unless we know the shape and position of his indifference curves between safe and risky investments. The only safe conclusion is that an income tax will deter least those with relatively large incomes from other sources and if deduction is allowed for past income (as well as present income from safe sources), those who are already established. Thus an income tax in these conditions will not

discriminate against risk bearing but against the small or the newly arrived investor. It will favour those with the monopolistic advantage of high incomes.

Finally, there is the case where the state taxes capital gains but does not allow losses to be deducted from other forms of income. In this case the substitution effect works clearly in favour of safer investments (though it must be remembered that money may be very unsafe at certain times) and increased risk bearing could only occur if there is a very strong income effect in favour of high-yield, risky investments. Since it is, as we have argued, impossible to distinguish sharply between profits which are income, and profits which are capital gains, even those tax laws which do not appear to apply to capital appreciation may in effect do so. If they do, risk bearing may be discouraged in spite of the formal exemption of capital gains from taxation.

PAUL STREETEN

Haslingden: A Problem in Balance

I

In the industrial areas of Lancashire, Yorkshire, Staffordshire and Durham, there are many towns which grew rapidly during the nineteenth century, on the basis of specialisation on a single industry. In an expanding world economy, such specialisation brought handsome returns. But in the inter-war years, the basic industries of these towns suffered prolonged and severe depression. Most of them had been by-passed by recent industrial development and the absence of alternative forms of employment led, not only to heavy unemployment, but also to the loss to other areas of the more mobile and adaptable sections of the population. It was this experience which led the inhabitants of these towns to fear dependence on a single industry and to demand a greater degree of diversification.

Haslingden is a typical example of such towns. It grew up on the basis of specialisation on the cotton industry and suffered with that industry in the inter-war years. This led to a desire to attract new industries to the town; and this desire persists in the post-war period, notwithstanding the present prosperous conditions of the industry. This study attempts to examine the case of Haslingden in some detail as an example of the problems that arise in putting into effect the general policy of diversification.

II

Haslingden is situated some 900 feet above sea level on the edge of the Rossendale Forest, the spur of the Pennines which separates the Ribble and Irwell valleys. The main industrial area lies in the valleys of the Ogden and Swinnel Brooks which flow into the Irwell a few miles south of the town. In economic development, Haslingden is probably the oldest part of the Rossendale Forest. Even today it is the only valley across the Forest containing a railway.

The siting of existing buildings, both industrial and residential, was largely determined by the physical configuration of the area. The mills are strung out along the floor of the valley in a manner characteristic of many parts of the textile area of Lancashire and Yorkshire. Houses were built close to the mills and often in streets of tremendously steep gradient, two factors which make the older parts of the town unattractive and awkward.

Physical features have also determined the line of the railway and have reduced its economic value to Haslingden. There are three stations within the borough. Haslingden station itself is nearest the centre, but the steep approach is a handicap to commercial traffic and inconvenient for passengers. But Haslingden is well served by road communication ; its advantageous position in this respect is illustrated by the existence of an important cattle market.

III

Four disquieting features of Haslingden's experience as a cotton town underlie the anxiety of the local authority to secure a broader economic foundation.

The first major cause of concern is the persistent decline in the total population over the last 40 years. In 1891 Haslingden, when first incorporated, had a population of 18,225 ; by 1911 it had increased slightly to 18,719 ; but since that date has fallen almost continuously to 14,540 at the end of 1948. This decline is characteristic of the Lancashire Weaving Area as a whole. It is due partly to the low birth rate in textile areas where large numbers of married women are in employment, and partly to migration from the area as a result of depression in the cotton industry and the absence of alternative occupations. The relative importance of the low birth rate and migration over the period 1931-39 is shown in Table I ; comparable figures are given for the other main weaving areas.

It will be seen that in the decade before the war, Haslingden's population fell by 10 per cent. While a decline of similar magnitude occurred throughout the Weaving Area as a whole, Haslingden's neighbours, Rawtenstall and Bacup,

TABLE I

POPULATION CHANGES IN THE LANCASHIRE WEAVING AREA, 1931–39

	Population 1939	Changes in Population, 1931–9	Natural Decrease[1]	Migration	Per cent. fall in population	Natural Decrease as per cent. of total change	Migration as per cent. of total change
Total Weaving Area	**502,516**	**—49,669**	**12,408**	**37,261**	**9·0**	**25·0**	**75·0**
Haslingden ...	15,050	— 1,589	608	909	9·5	42·8	57·2
Bacup	19,510	— 1,080	269	811	5·2	24·9	75·1
Rawtenstall ...	26,810	— 1,777	635	1,142	6·2	35·7	64·3
Rossendale area	61,370	— 4,446	1,584	2,862	6·8	35·6	64·4
Blackburn area	256,032	—25,286	5,957	19,329	9·0	23·6	76·4
Burnley area ...	185,114	—19,937	4,867	15,070	9·7	24·4	75·6

[1] Excess of deaths over births.

were not so severely affected. This difference resulted from a higher rate of natural decrease and of migration from Haslingden, than in the case of the other two towns.

The second cause of concern was the fall in insured population in Haslingden which, in part, reflects the fall in total population. As can be seen from Table II, here again there is a striking contrast between Haslingden and Bacup and Rawtenstall. While Haslingden's insured population fell by 14 per cent. over the decade 1929-39, that of Rawtenstall increased by 1·7 per cent. and of Bacup by 16 per cent.

TABLE II

INSURED POPULATION, 1929–39

	1929	1939	Percentage change
Total Weaving Area ...	**251,126**	**219,747**	**—12·5**
Haslingden	7,719	6,645	—13·9
Bacup	8,318	9,653	+16·0
Rawtenstall	12,905	13,127	+ 1·7

The explanation of this striking difference is that while Haslingden continued to rely mainly on textiles, Bacup and Rawtenstall developed alterative industries which more than offset the decline in insured employment in textiles. Insured workers in clothing (especially shoes and slippers) increased during the period by 81 per cent. in Bacup and nearly 40 per cent. in Rawtenstall.

It was this continued and almost exclusive reliance on textiles in Haslingden which constituted the third source of anxiety. Although the proportion of the insured population in the cotton industry fell from 77 per cent. in 1929 (62 per cent. for men and 93 per cent. for women), to 69 per cent. in 1939 (54 per cent. for men and 86 per cent. for women), as can be seen from Table IV, there was no other occupation of more than minor importance.

TABLE IV

DISTRIBUTION OF INSURED POPULATION BY INDUSTRIES IN HASLINGDEN, JULY, 1939

	Total		Males	Females
	Number	Per cent. of total		
Total [1]	**6,645**	**100·0**	**3,510**	**3,135**
Cotton Spinning	595	9·0	431	164
Cotton Weaving	4,015	60·4	1,467	2,548
Woollen and Worsted ...	307	4·6	188	119
Textile Finishing	126	1·9	118	8
Building	263	4·0	261	2
General Engineering	174	2·6	152	22
National and Local Governm't	228	3·4	201	27
Distribution	350	5·3	247	103
All other industries	587	8·8	445	142

[1] General Scheme.

Concentration on cotton must not, however, be taken to mean concentration on a single product; a fact which is important to the full understanding of the experience of the 1930's and is highly relevant to current discussion about diversification. The cotton industry in Haslingden is itself divided into two distinct sections—fine and condenser (or waste), and each mill produces a wide variety of cloth.

There are now six mills engaged in weaving fine cotton, and there is a substantial range of counts in use at each. The products of this section include cambrics, poplins, organdies, linings for hose-pipes, tyres and footwear, insulating cloths and spun silk dress materials. The total looms installed in this section are now approximately 5,000. It is difficult to give precise figures of the markets for the products of this section before the war, since most of the firms sold their output in the grey to converters. But at least 50 per cent. was exported and in the case of one firm the proportion was as high as 90 per cent.

The eleven firms in the condenser or waste section are all vertical organisations doing both spinning and weaving. Condenser yarns, spun from hard or soft waste, are soft full yarns which are used as weft with an ordinary cotton or rayon warp. There is an amazing variety of cloths woven in the waste mills and while sheets and blankets are produced at nearly all the mills, each has its own special line in these and other products. One mill concentrates entirely on the production of sheets and blankets of a rather finer type, while another manufactures a wide range of cloths from relatively coarse counts, for example, sheets, blankets, huckaback towels, furnishing fabrics, counterpanes, tea-towels, dish-cloths, dusters and striped flannelette for shirtings. In contrast to the fine section most of the mills in the waste section produced nearly all their goods for the home market before the war.

The anxiety over the dependence on the cotton industry arose mainly because of the unfortunate unemployment experience of the 1930's, the fourth major cause of concern. The severity of the depression varied in the different localities of the Lancashire Weaving Area, partly owing to differences in the

degree of concentration on cotton and partly because of differences in markets. Haslingden's experience was conditioned by the state of trade in the fine and condenser sections of the industry. As can be seen from Table V, in 1929 Haslingden's unemployment was low compared with other districts in the Weaving Area and Lancashire as a whole.

TABLE V

PERCENTAGE OF INSURED WORKERS UNEMPLOYED

Quarterly Averages

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
Lancashire	13·4	26·3	28·9	24·7	22·9	20·7	20·0	17·3	14·4	18·8
Haslingden	7·9	37·0	34·0	24·4	23·6	18·9	16·7	13·7	10·3	22·3
Bacup	16·5	27·4	28·3	24·5	22·7	23·5	21·2	18·3	15·6	20·7
Rawtenstall	14·4	29·6	29·9	28·1	23·4	24·1	20·8	16·0	12·6	20·8
Blackburn	14·3	45·9	45·6	34·5	34·6	31·5	31·9	28·6	22·0	31·5
Burnley	11·0	33·5	35·2	25·4	24·1	23·3	21·8	19·6	17·0	25·8

The full effect of the depression was probably delayed in Haslingden by the fact that the condenser section was almost entirely home trade. But depression in both home and export markets brought a period of severe unemployment, especially in 1930 and 1931. The situation was even more serious than these figures show, for there was, in addition, widespread under-employment, both in the form of short-time working and also in the reduction in the number of looms per weaver.

Some mills tried to counteract the fall in demand for their staple products by introducing new lines of production. One firm took over an empty mill in 1931 and started the production of folk-weave counterpanes, curtains and furnishing fabrics, cloths which had previously been imported from Germany and Holland. Another firm built a dyehouse in 1930 and switched its entire production from the manufacture of sheets and blankets to the weaving of folk-weave and jaspé counterpanes.

Another firm changed over one of its mills in 1936 from the weaving of fine cotton to spun silk. Other mills, especially in the fine section, were compelled to close altogether. Of the mills which closed in Haslingden during the depression, six were subsequently taken over by existing cotton firms, three were demolished.

IV

The dangers inherent in heavy concentration on a single industry were referred to as early as 1894 in the Report of the Weavers' Association " The Outlook at present appears not over-promising and we should be pleased to welcome the development of some new industries in the district." The heavy unemployment in the 1930's and the decline in population seemed to threaten the life of the town and transformed the desire for diversification into an urgent need. But efforts to achieve this met with no success in the immediate pre-war years.

The Weaving Area of Lancashire, and Haslingden in particular, got no assistance from the Government's special area policy. Four areas, the North East Coast, West Cumberland, South Wales, and South West Scotland were scheduled under the Special Areas Act, 1934, for official assistance. It is true that the unemployment position in Lancashire as a whole was not as bad as in these four areas ; but, as can be seen from Table VI, conditions in the Weaving Area very closely resembled those of the Depressed Areas.

Failing to qualify for Government assistance in the promotion of new development, Haslingden and other similarly placed Lancashire towns carried out their own propaganda and collectively supported the Lancashire Industrial Development Council formed in 1931. But in contrast to her neighbours, Haslingden achieved practically nothing. The slipper industry expanded considerably in Bacup and Rawtenstall, all the premises being former cotton mills. In Great Harwood, the British Celanese Co., and the Oxo Co. took over mills in 1939.[1] The only development in Haslingden was the

[1] See Report of Accrington and District Industrial Development Commission, November, 1939.

TABLE VI[1]

UNEMPLOYMENT IN THE SPECIAL AREAS AND WEAVING AREA

Percentage Unemployment. Quarterly Averages

	1931	1934	1935	1936[2]
Special Areas—				
South Wales ...	39·0	42·9	41·6	44·4
W. Cumberland ...	36·8	36·8	35·7	36·4
N.E. Coast	34·4	33·5	32·7	27·6
S.W. Scotland ...	33·6	29·6	25·6	22·9
Weaving Area ...	**40·1**	**26·6**	**25·9**	**22·0**

[1] Readjustment in Lancashire, page 90.
[2] First two quarters.

taking over of Industrial Mill, Baxenden, by Holland's in 1935, for confectionery manufacture. But even now this firm employs only 200 workpeople.

Haslingden's lack of success in attracting new industries in the 1930's is of importance in throwing light on the potentialities of the town for industrial development. Unfortunately, the reasons for this failure, in striking contrast to the experience of some of the other weaving towns, cannot be discovered with any degree of certainty. The most likely explanation is the lack of suitable premises. Ability to offer factory accommodation was undoubtedly a factor which very considerably enhanced the chances of a town securing new development. In 1935-36, the Board of Trade examined a large number of new developments in order to find the main factors which had influenced their location. " Availability of premises " proved to be the dominant factor in most cases.[1]

Although Haslingden lacked empty factories there were suitable sites. The Lancashire Industrial Sites Co., set up under the Special Areas Amendment Act, 1937, was authorised to build and recondition factories in areas dependent on industries which had been depressed for a considerable time

[1] See " Industrial Opportunities in the Development Areas " : Board of Trade Journal, 1946.

and which required financial assistance. Haslingden clearly came within the sphere of operation of the Sites Company, but gained nothing from its activities. Indeed, during the two years between the formation of the Company and the outbreak of the war, no factory projects were undertaken. It has been suggested that owing to the uncertain international situation, industrialists were unwilling to enter into long term commitments with the Sites Company. Also it seems likely that the Trading Estates in the Special Areas constituted serious competition. Even the willingness of the Haslingden Corporation to offer sites at purely nominal rents and to consider giving financial assistance in building factories, did not prove to be sufficiently important to attract new enterprises. It is true that the Industrial Development File of the Council shows that enquiries for factories continued urgent up to the beginning of the war ; but none of these enquiries came to fruition.

By the outbreak of war, therefore, the distribution of occupations in Haslingden showed little change. The decrease in the numbers employed in cotton between 1929 and 1939 was matched by an almost equal reduction in the total numbers insured.

V

With the outbreak of war, important new factors influenced the distribution of industry. Supply Departments required existing empty factories and sites for new ones ; industries exposed to bombing were anxious to transfer to less vulnerable areas.

Here was an excellent opportunity to secure the establishment of new industries in Haslingden. In fact, Haslingden's dependence on the cotton industry hardly altered throughout the period of the war. As can be seen from Table VII, apart from a small expansion in engineering, a large proportion of which represented the employment of women, the general picture of Haslingden's employment experience during the war was one of decline. Only two new firms were established, one a London engineering firm subsequently taken over by

the Ministry of Supply, the other a firm from Old Trafford. Against these must be set the closing down of thirteen cotton mills under the concentration scheme.

TABLE VII

DISTRIBUTION OF INSURED WORKERS IN HASLINGDEN

	July, 1939		July, 1945	
	Number	Per cent. of total	Number	Per cent. of total
Total	**6,645**	**100·0**	**4,775**	**100·0**
Cotton Spinning ...	595	9·0	320	6·7
Cotton Weaving ...	4,015	60·4	2,410	50·7
Woollen and Worsteds	307	4·6	227	4·8
Textile Finishing ...	126	1·9	128	2·7
Building	263	4·0	115	2·4
General Engineering ...	174	2·6	567	11·9
National and Local Government ...	228	3·4	230	4·8
Distribution	350	5·3	252	5·3
Other Industries ...	587	8·8	506	10·7

This chronic inability to attract new industrial development even in the favourable circumstances of the war, is again in striking contrast with events in some parts of the Weaving Area. In the Blackburn area, for example, substantial aircraft and general engineering production was developed, and the percentage of insured workers employed in textiles fell from 45 per cent. in 1939 to 25 per cent. in 1944. The fall in reliance on textiles in the Burnley area, although not so marked—from 57 per cent. to 43 per cent.—was still substantial. In the Rossendale area, on the other hand, the proportion of insured workers in textiles remained practically unchanged at 45 per cent.

The failure to attract new industrial development during the relatively favourable circumstances of the war was not

for want of trying by the Local Authority. An attempt was made at the beginning of the war to secure the establishment of a chemical factory. The site offered, however, failed to satisfy the Ministry of Supply's requirements for water supply and disposal of effluent. Following this, the Town Clerk submitted in November, 1940, a direct appeal to the President of the Board of Trade. He set out Haslingden's case for receiving new industries. Existing services were capable of supporting an increased population without large extension schemes ; in the short term, Haslingden's geographical position made it immune from air attack, and a war-time dispersal might help to solve some of the long-term problems of industrial location. The reply from the President of the Board of Trade [1] expressed in no uncertain way the Government's assessment of Haslingden's position, at any rate for the period of the war. " The President has looked closely into the question of labour supply and factory accommodation in the town, both at present and in the future. As a result he has come to the conclusion that it would not be right at the present time to take any steps to encourage the introduction of new industries to Haslingden. In settling the long-term problem, other factors will of course have to be taken into account."

This is the first suggestion that there was a conflict between the short and long term solutions to Haslingden's problems ; but it has become the recurrent theme in all Government statements in reply to representations by the Local Authority. While Haslingden still remained heavily concentrated on cotton, the employment position had radically altered during the war. The surplus labour of pre-war years had disappeared. Migration from the town and the movement of cotton operatives from concentrated mills to other occupations threatened a shortage of labour for the existing mills quite apart from the staffing of any new industries. If new industries were attracted to Haslingden they would therefore only develop by drawing labour away from cotton. This the Government was not prepared to countenance. Although, as can be seen from quotations from Government statements on

[1] 16th January, 1941.

Haslingden's problems given later in this article, lip service was paid to the need for diversification, it was firmly maintained that this would have to be pursued only on a long-term policy.

It would, of course, be wrong to assume that the Local Authority would be prepared to agree with a policy which would involve denuding the cotton mills in Haslingden of their existing labour force. Their solution of the dilemma is to secure a better balance by enlarging the total population, so that the cotton industry, although no smaller than at present, would be relatively less important.

VI

The Local Authority's solution of the problem is given in the local Development Plan prepared in 1942. This makes three major recommendations. Firstly, that a more balanced industrial structure is desirable; secondly, that the town should increase in size to approximately 30,000, a limit set by physical considerations; thirdly, that local autonomy and identity should be preserved as far as practicable.[1] In the plan two potential areas are suggested for industrial development. One set of sites covering 440 acres with rail access and suggested as suitable for heavy industries; the other of 50 acres has been set aside by the Council specifically for development as a trading estate on which lighter industries would be located.

The fundamental basis of this plan is an enlargement of the total population. This appeals to the local inhabitants, not only because it would enable new industries to be developed without harming the cotton industry,[2] but also because they feel that in the present pressure towards bigger units of local government they can only hope to regain a measure of control over their own affairs if they are much larger than at present. Intense local patriotism makes them resentful of the downward trend of total population of the last thirty years and anxious to

[1] This aspect of the Plan raises the whole question of Local Government areas and will be dealt with separately in a subsequent article.

[2] Indeed, if the new development was in heavy industries mainly employing males, as the Plan wishes, there would be an extra supply of female labour for the cotton industry.

reverse it. No particular significance should be attached to the figure of 30,000, although it is given in the Plan as the " ideal " size of town.

As things are at present Haslingden is not likely to attract an influx of population. People move from one area to another either because the employment prospect appears good, or because houses are available or because the place itself is attractive for working or living. There are, it is true, over 300 vacancies in the cotton mills, but then that situation is prevalent throughout Lancashire for the very reason that cotton is not attractive when other occupations are available. The Housing Committee have a waiting list of 700 people, and there are over 300 families still living in houses which under normal conditions would have been scheduled for demolition. As for physical amenities, Haslingden has no specific natural asset to make it attractive and many people would be repelled by the rigorous climate of a town situated 900 feet above sea level on a western spur of the Pennine Chain.

Given that there will be no natural tendency for people to move to Haslingden, the only remaining way of it increasing in size, is for it to be selected for receiving overspill population in any scheme to disperse congested urban areas. Haslingden made its views clear in representations to the Ministry of Town and Country Planning and the Board of Trade, arguing that there were great advantages in expanding existing small towns compared with building new ones, and that Haslingden was a good candidate for such expansion. The Ministry of Town and Country Planning replied to these representations as follows :—

" The Borough Council is evidently under a misapprehension since of the given areas which have so far been designated, or proposed to be designated, as areas for new towns, four have as their core an existing centre, with, of course, public services. Of these one is an Urban District and another a Borough Council with a population of 24,000. You will see from this that where it is appropriate to do so, there is no objection to developing and enlarging an existing centre of population into what, for lack of a better term, is called a new town.

" So far as Haslingden itself is concerned, the Town Clerk may care to know that the Ministry has instructed the Regional Controller for the area in which Haslingden is situated to prepare a report on potential sites for new towns in the region."[1]

And later, in September, 1947 : " . . . In my letter last March I undertook to bring the Haslingden Borough Council's representations to the notice of our Regional Controller who was at that time preparing a report on possible new sites in the region. Since then the 1947 Town and Country Planning Bill has become law and one effect of this will be to make the County Councils the principal Planning Authorities. When a Divisional Plan for Lancashire comes to be prepared, as it will have to be under the new Act, the County Council will have an opportunity to consider not only whether Haslingden should grow from a town of 15,000 into one of more than 27,000, as suggested in the Consultant's report, but also what machinery would be available to carry out such an expansion. Even if an enlarged Haslingden by reason of its proximity to other and still larger settlements could not be regarded as a self-contained and independent community in the sense of the New Towns Act, it might still be developed to some extent as a reception area for overspill population from Manchester.

" I do not know how far the Consultant's proposals have been made known to the County or to the present Planning Authority for the area, but I should like to take this opportunity of passing them to our Regional Office, so that if they are yet in a position to add more detailed comments they will have a chance of doing so."[2]

The outward movement from the Manchester region of between 150,000—250,000 people has been described as the most pressing problem in the former South Lancashire and North Cheshire Advisory Area. Worsley, Middleton, Irlam, Denton, and Urmston have been suggested as suitable reception towns within the area ; and Mobberley, Lymm and Tottington have

[1] Letter from the Ministry of Town and Country Planning to the Town Clerk, dated March 13, 1947.

[2] Letter from Ministry of Town and Country Planning to the Town Clerk of Haslingden, dated September 4, 1947.

been proposed as the nucleus for the development of new towns further away from Manchester.

The population movement from Manchester may either be to dormitory areas so that people are re-housed but continue in their existing employment; or it may take place concurrently with the development of industry. From the point of view of the reception area the latter is more desirable; in the case of Haslingden the case for an expansion of population largely rests on the need for new industrial development. But it is just this kind of movement of population and industry together which is most difficult. At present the dormitory type of development is likely to predominate, at least in Lancashire. Easy access to Manchester is likely, therefore, to be of importance; and on the North side, Tottington and Holcombe Brook, which are already linked to Manchester by electric train, appear to be more likely candidates than Haslingden. But it seems quite clear that little will now be done to answer Haslingden's representations until the County's Development Plan is complete: at present, of course, this is only at the initiating stage.

Even if there were no prospect of an enlargement of the town's population, the local authority still feel that there is a strong case for special action to be taken to encourage new industrial development in order to reduce dependence on cotton. And they base their case on Government statements drawing attention to the weaknesses inherent in an over-specialised area. "Dependence on a single industry and subsidiary industries which grow up around it is a natural form of industrial development which has in the past enabled certain areas to reach the highest peak of temporary prosperity, while circumstances were favourable. . . . But the price to be paid for such temporary prosperity is high when the period of depression comes."[1]

Although the Government has stated that it agrees in principle with a policy which will encourage diversification of industrial development, distribution of industry policy since the end of the war has largely been based on the short-term

[1] Employment Policy, 1944, Cmd. 6527, p. 11.

policy of encouraging development in areas where there is unemployment and discouraging it where there is at present a labour shortage. Since the cotton industry has been short of labour since the end of the war this policy in practice has set a ban on any development likely to attract labour away from cotton.

This dilemma between lip-service to the principle of diversification and refusal to do anything which might reduce the labour supply in the cotton industry, became apparent quite early in discussions on post-war development. In November, 1944, representatives from Blackburn, Accrington, Darwen and Great Harwood held a meeting with the Regional Controller of the Board of Trade to discuss the future of these towns when munition production came to an end. The Regional Controller took the line that cotton is a big export industry to which the Government attached great importance. " If we have attractive industries cheek by jowl with cotton mills what will happen ?"

Subsequent powers assumed by the Central Government have strengthened this policy of protecting cotton. When questioned on the working of the Control of Engagement Order, the Parliamentary Secretary to the Board of Trade replied : " The Control of Engagement Order will be used sensibly and sympathetically : if we do find people in one particular industry are being displaced, we shall do our best particularly by encouragement to attract them particularly into the cotton industry. If the situation really warrants it, we might feel compelled to do certain things in connection with raw material allocation to shift people from one industry to another. . . . The Order will be used sensibly and sympathetically in order to attract into the textile industry as many people as possible."[1]

Because Haslingden's concentration on cotton is greater than in any other single Exchange Area, this conflict between short and long run policy appears there in its most acute form. The Local Authority reiterated their view in a letter to the Board of Trade early in 1947. " As you are aware my Council

[1] Hansard, March 12, 1948.

has been and still is deeply conscious of the need for securing a more balanced distribution of industry in the Borough and in that direction is anxious to see that industrialists are attracted to the area.

" At the same time my Council is fully aware of the fact that the policy of the Board of Trade to accord with present-day legislation is to encourage industrialists to areas which are or have been scheduled as Development Areas. In consequence such places as Haslingden, and it is not alone in this respect, cannot see any possibility of there being attained that balance in the industrial sphere which all agree is so essential for a happy and prosperous community.

" We are in the fortunate position of having an ideal site available in the district for industrial user, yet no development of same can be foreseen under the present scheme of things whereby a bar would appear to be placed on future industrial development in non-Development Areas.

" . . . My Council strongly protests at the restriction that now exists, thus hampering districts such as Haslingden to secure that balance in industry which was a strong recommendation of the Barlow Report on the Redistribution of the Industrial Population."[1]

This called forth the standard reply from the Board of Trade that while diversification was needed in Haslingden in the long run, nothing could be done at present to interfere with labour supply for the cotton industry. " . . . the Borough Council are under a misapprehension in thinking that there is a bar on industrial development in non-Development areas. This is not so, and while our first concern must be with the development areas we do aim at securing a balance in all areas. I recognise that Haslingden is heavily dependent on the cotton industry and I agree that in the long-term a measure of diversification would be desirable. There is, however, no male employment problem and there is already a labour shortage, particularly of women and juveniles for the cotton industry. Any other demands for labour must be at the expense of that industry and I am sure that you will agree

[1] Letter from Town Clerk of Haslingden, January 27, 1947.

that in the present circumstances we could not permit that."[1]

It is this ready willingness on the part of the Central Authorities to agree with Haslingden in principle and yet refuse to take any action because of the immediate situation, that Haslingdonians find so exasperating. The insistence on taking the existing, rather than the prospective, labour situation as a criterion for distribution of industry policy seems to the local authority to be most short-sighted.

VII

In the course of 20 years Haslingden has passed from a state of severe unemployment and under-employment to one of labour shortage. With 67 per cent. of its insured workers still employed in textiles its economic structure remains substantially the same, linking its prosperity with the fortunes of the cotton industry. Local demands for the introduction now of new industries as a safeguard against a future decline in cotton are resisted by the Government to whom the current claims of the cotton mills for labour are the over-ruling consideration.

In exercising control over the location of industry, Government policy may be said to have two major objectives : to solve unemployment and to secure a proper industrial balance. In Development Area Policy the existence of unemployment justifies the introduction of new industries which will help to promote a better balance. " The existing rate of unemployment is one of the most important factors to be considered (in scheduling a Development Area). But there are other factors such as the past history of the area, and the effects on the unemployment position in any area of any alterations, either in general conditions such as world demand or in the demand for the products produced particularly in the area under consideration."[2]

But how is unemployment and lack of balance to be interpreted in the case of Haslingden ? On the basis of past unemployment and heavy concentration on a single industry

[1] Letter from Parliamentary Secretary, Board of Trade, dated March 5 1947.

[2] Distribution of Industry, 1948, Cmd. 7540, para. 86.

Haslingden presents a very strong case for diversification. Its continued dependence on cotton renders it very vulnerable in the event of a future depression. But under existing conditions of over-full employment Haslingden has no problem.

If control over the location of industry is only to be a means of correcting existing unemployment, then action will always be retrospective and considerable hardship through unemployment will be suffered in the meantime. But if control is to be exercised as an instrument for preventing future unemployment, then it must be based on the long-term needs of individual areas and not solely on the dictates of immediate economic expediency.

It may well be that Haslingden's long-term need is a greater diversification of industry : 58 per cent. is a very high proportion of the insured population to be employed in a single industry, particularly one with such a heavy unemployment record. But questions of " balance " must be discussed not with reference to the number of industries but in terms of their stability. The demand for a more diversified structure in Haslingden and other Lancashire towns springs from their previous unstable industrial history. The one justification for denying their appeal is the assurance that the future demand for cotton will be sufficient to maintain the present level of employment.

The cost of a policy of diversification is the relinquishment of the present high priority for cotton ; the cost of failure to diversify, should depression come, will be widespread unemployment.

Haslingden presents a dilemma. The cause of it and the key to it is the cotton industry. Location policy by its very nature takes some years to materialise. The planning now of new industries in Haslingden and the Weaving Area to meet a future contingency of depression in cotton is excluded by another aspect of Government policy which involves attracting sufficient labour to the cotton industry to meet current requirements in the home and export markets.

These issues have been apparent for some time, but the case of Haslingden illustrates the futility of striving after both goals. A choice must be made and the consequences fully appreciated. To carry out propaganda for recruiting labour to the cotton industry while at the same time conceding that "in the long term a measure of industrial diversification would be desirable" is meaningless in its contradiction. Such ambiguity not only frustrates local enterprise and initiative, but raises inevitably the fundamental question: "When *is* the right moment to settle long-term issues?"

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A Note on the Size of Establishments in Factory Trades

Publication in the *Ministry of Labour Gazette* some fifteen months ago of an analysis of establishments in factory trades according to numbers employed in January, 1948, which can be compared with 1935 Census of Production data, facilitates examination of recent trends in factory size, and, in particular, the impact upon them, of the second world war. The data originally presented related only to wide industry groups, many of which were composed of a hybrid collection of trades, but I have been allowed access to the unpublished detailed figures showing a breakdown by individual trades. This reduces the heterogeneity considerably but complicates somewhat the problem of comparability between Ministry of Labour material and Census of Production data collected by the Board of Trade which becomes more perverse the finer the degree of classification. However, as proportions and averages are the only statistical measures used, slight inconsistencies need not cause undue concern. Industries where comparability was quite impossible have been omitted and in addition a certain amount of adjustment in trade grouping has been necessary.

From distributions of employees by size of establishment in which employed it can be determined where the proportionate employment has changed. Table I summarises the information relating to those groups in which the percentage has increased.

TABLE I.

PROPORTION OF THE TOTAL EMPLOYEES OF AN INDUSTRY EMPLOYED IN FACTORIES OF SPECIFIED SIZE.

Percentages

	Factory size group	1935	1948
Metal Manufacture.			
Pig Iron	500+	40	71
Iron and Steel	1000+	57	72
Non-Ferrous Metals	500+	39	64
Tin Plates	11 — 499	57	57
Iron and Steel Tubes	1000+	41	53
Wire	500+	22	39
Engineering.			
Mechanical Engineering	1000+	26	37
Electrical Engineering	100 — 499	17	19
Marine Engineering	1000+	58	65
Constructional Engineering	500+	27	50
Shipbuilding and Ship-repairing.	500+	59	72
Vehicles.			
Motors, Cycles and Aircraft	1000+	60	67
Metal Goods.			
Hand Tools, Cutlery, etc.	100+	64	70
Watches, Clocks, Plate, etc.	100+	49	52
Scientific Instruments	500+	21	34
Chemicals, Paints, Oils, etc.	500+	35	48
Food, Drink and Tobacco.			
Bread, Biscuits, Cakes, etc.	11 — 500	68	81
Grain Milling	100 — 499	47	54
Cocoa, Chocolate and Sugar Confectionery	500+	63	63
Drink	100+	55	70
Tobacco	1000+	59	67

(*Cont'd*).

(*Table I cont'd*). Percentages.

	Factory size group	1935	1948
Textiles.			
Cotton Spinning	1000+	10	12
Cotton Weaving	11 — 99	14	18
	1000+	6	9
Wool	11 — 499	70	77
Silk, Rayon, etc.	11 — 499	41	46
Hosiery	11 — 499	70	76
Textile Finishing	100+	75	75
Jute	11 — 499	67	70
Lace	11 — 99	52	59
Leather.			
Tanning, Dressing, etc.	100+	49	57
Leather Goods	100+	44	47
Clothing.			
Tailoring, Dressmaking, etc. ...	11 — 499	80	81
Hats and Caps	500+	14	23
Boots and Shoes	11 — 499	69	75
Woodworking.			
Sawmilling, etc.	100+	33	46
Wood Boxes and Cases ...	11 — 99	62	62
Furniture and Upholstery ...	500+	9	12
Paper, Printing, etc.			
Paper and Board	500+	38	45
Cardboard Boxes, etc.	100 — 499	42	49
Building Materials	500+	21	30
Other Industries.			
Rubber	100 — 499	23	24
Brushes and Brooms	100+	58	61
Musical Instruments	11 — 99	36	54
Toys, Games, etc.	100+	62	67

The forty-four industries can be placed, on the basis of changes in distribution of employees between 1935 and 1948, in five categories.

TREND TOWARDS LARGER SCALE OF OPERATIONS.

Expanding Industries. Pig Iron ; Iron and Steel ; Non-Ferrous Metals ; Iron and Steel Tubes ; Wire ; Mechanical Engineering ; Marine Engineering ; Constructional Engineering ; Shipbuilding ; Motors and Aircraft ; Hand Tools and Cutlery, etc. ; Scientific Instruments ; Chemicals, Paints, Oils, etc. ; Paper and Paper Board ; Tanning ; Leather Goods ; Sawmilling ; Drink ; Tobacco ; Brushes ; Toys, Games, etc.

Declining Industries. Furniture and Upholstery ; Hats and Caps ; Cotton Spinning ; Watches, Clocks, etc.

Static Industry. Building materials.

INCREASE IN IMPORTANCE OF BOTH LARGE AND SMALL PLANTS.

Declining Industry. Cotton Weaving.

UNCHANGED.

Expanding Industry. Wood Boxes and Cases.

Declining Industries. Tin Plate ; Textile Finishing ; Cocoa, Chocolate, etc.

TENDENCY FOR MEDIUM SIZED ESTABLISHMENTS TO INCREASE IN IMPORTANCE.

Expanding Industries. Electrical Engineering ; Rubber.

Declining Industry. Cardboard Box.

Static Industry. Grain Milling.

SMALLER-SCALE.

Declining Industries. Bread, Biscuits, etc. ; Wool ; Silk, Rayon ; Hosiery ; Jute ; Lace ; Boots and Shoes ; Tailoring, etc. ; Musical Instruments.

Thus the broad picture is of a trend towards increased factory size for the producer goods industries with some of the trades producing goods for the consumer following suit but many, particularly in textiles, displaying a shift towards smaller scale of operations.

The significance of the division of each category into those industries which expanded, declined, or remained sensibly constant in aggregate employment between 1935 and 1948 is that even in normal times it would be expected that the scale of operations would be increasing in an expanding industry and decreasing in a declining one but, in fact, this tendency will have been reinforced during the period under review. In the first place, the situation in January, 1948, was still to a large extent the legacy of wartime conditions when (*a*) a rapid expansion of the metals, engineering, shipbuilding, vehicles, and chemicals industries was necessary—an expansion in which little regard was paid to cost or efficiency and one which, in the first place, was most conveniently carried out, as far as possible, by growth of existing plants and factories ; (*b*) again because cost was secondary to output, such new building as took place was done on a large scale, much of it by or at the behest of the government ; (*c*) many establishments in non-essential industries had to reduce the scale of their operations because of labour call-up and shortage of raw materials. If a small factory closed down completely the effect would be, of course, to *increase* the scale in that particular industry and in the event of the plant then being tooled for production in the metals group, employment there in the *small* establishments would increase. Secondly, during and since the war there have been restrictions in operation on private building ; restrictions on the setting-up of new enterprises, for instance, through allocation of raw materials by licence based on pre-war consumption ; and capital has been scarce due to high taxation, all working against the expansion of an industry through the installation of new factories. In addition the system of controlled prices has tended to protect inefficient businesses against closing down completely and thus run counter to the decline of an industry through a reduction in the number of firms and in favour of decrease in the scale of operations. On balance, then, it can be said that the effect of the war was to give additional impetus to the tendency for size of establishment to increase in the expanding metals group and to decrease in the declining trades producing consumer goods.

In view of these considerations it is not surprising that in the great majority of cases the trend in factory size follows very closely variation in size of the industry as a whole ; of the twenty-six trades exhibiting a clear tendency towards larger scale, twenty-one were expanding between the two years while all nine of the unmistakable falls in size occurred in declining industries. Indeed, there are no really surprising exceptions—no expanding industry with trend towards smaller scale of operations and only four cases of increasing factory size in a declining industry ; furniture and upholstery, watches, etc., cotton spinning, and hats and caps, in all of which the wartime cuts and concentration left the larger establishments relatively unscathed while docking the smaller ones severely. It is appropriate to note here that during the war there was carried out, in some consumer goods industries, a ruthless and deliberate pruning and concentration, when again the relevant considerations in deciding which factories should close were not purely economic in character but were mainly the effects such cuts would have on the war effort, for example, the suitability of the released labour for the munitions industry. Many of the changes which took place in the declining industries would undoubtedly be attributable to this cause.

In view of the consistency between observed behaviour and expectation on the basis of the forces generated by the war it would be of particular interest to examine whether the trends in factory size which have been detected have run counter to economic attractions. Is there economic advantage to be gained from the larger plant or does the smaller establishment tend to be more efficient ? The first problem, in considering this question, is to devise a satisfactory index of efficiency. The only measure which is readily available for comparing different sizes of establishment within each industry is net output per person employed. This would be of little use for comparing different industries and even within a single industry it is most imperfect for contrasting units of varying size since, firstly, net output as determined in the 1935 Census of Production is not, strictly, synonymous with " value added in the process of manufacture " but includes depreciation

allowances, advertising costs, insurance and banking charges, etc., and secondly, different units will neither be producing identical products nor charging uniform prices.

The most striking feature disclosed by examination of variation in net output per head for different sizes of establishment in individual industries is that in few cases is the behaviour smooth and completely free from ambiguity. In a great many industries net output per employee varies with size of plant erratically in a somewhat inconclusive manner. There must clearly be very considerable variation in efficiency even among establishments of similar size in the same homogeneous industry. It is possible nevertheless to pick out broad trends in most cases.

NET OUTPUT PER EMPLOYEE (1935)

Highest for smaller establishments.

Pig Iron ; Watches, Clocks, etc. ; Jute ; Lace ; Textile Finishing ; Leather Goods ; Tailoring ; Footwear ; Wood Boxes, etc.

Maximum for medium sized factories.

Iron and Steel Tubes ; Electrical Engineering ; Constructional Engineering ; Chemicals ; Grain Milling.

Larger plants most efficient.

Non-Ferrous Metals ; Tin Plate ; Wire ; Mechanical Engineering ; Shipbuilding ; Motors, Cycles and Aircraft ; Scientific Instruments ; Building Materials ; Saw Mills ; Paper and Board ; Cardboard Box ; Rubber ; Furniture ; Toys, Games, etc. ; Drink ; Tobacco ; Cocoa, Chocolate, etc. ; Cotton Spinning ; Cotton Weaving ; Silk and Rayon ; Hosiery ; Tanning ; Hats and Caps ; Musical Instruments.

It seems that, generally speaking, as would be expected, larger or medium-sized plants tend to be the more efficient in the capital goods industries. This is true of some of the trades producing consumer goods also, but there are more cases there of the advantage lying with the smaller factories. In fact, of the nine industries in which net output per head is highest for the smaller establishments, only one, Pig Iron, is

in the Metals, Engineering, Shipbuilding, and Vehicles Group. It can be said that there is fair agreement, in a broad way, between the trend in factory size and how *entrepreneurs* might be expected to behave on the score of relative efficiency of different sizes of establishment, there being very few definite inconsistencies in the whole set of fourty-four industries.

Conclusions.

The industries considered can be divided roughtly into three distinct groups :—

I. The Metals, Engineering, Shipbuilding, Vehicles and Chemicals groups of industries, all of which were important war industries and expanded considerably between 1935 and 1948.

II. Producer goods industries such as Paper and Board, Sawmilling, Building Materials, etc., which declined during the war yet by 1948 had not only recovered but, in most cases, exceeded their pre-war size.

III. Consumer goods industries such as the Textiles, Clothing and Food groups which, in the main, were in 1948 still well below their 1935 level.

With the first group it is undoubtedly true that the trend towards larger scale of operations is primarily due to the expansion of the industries under the conditions and subject to the requirements of war and the subsequent tenacious retention in peace-time of their augmented labour force. Analysis of net output per head, however, confirms the reasonable expectation with this particular group of industries that there is quite definite economic advantage in the larger establishment and this would also be expected to have contributed to the upward trend in size of plant. Electrical engineering is a rather unexpected exception to the tendency displayed by this first group of industries ; the number of establishments and total employment increased by 76 and 85 per cent. respectively and although the medium-sized plants employing between one and five hundred workers increased slightly in importance the changes were very small indeed. This, too, could be attributed to war and post-war time

developments when the trend towards bigger size of establishment enjoyed in common with allied trades was possibly balanced by the turning over to small-scale production of electrical equipment of many factories in a wide variety of non-essential trades—a proceeding not so practicable with other processes. However, it is rather remarkable that net output per head should be highest for the medium-sized plants in the electrical engineering industry.

In Group II again the general tendency is towards larger scale as would be expected both because the industries have expanded and also since the larger factories appear to be the most efficient on the basis of net output per head. However, the particular wartime features of the expansion of the first group of industries will not apply so strongly here.

The industries manufacturing consumers goods are perhaps a little more perplexing but probably more interesting to discuss. In the majority of cases there is, once more, singular consistency between trend in factory size and efficiency. Firstly, the scale of operations becomes larger in the expanded drink, tobacco, toys, etc., industries in all of which net output per head rises for the larger plants. Then, furniture, and hats and caps were declining industries with increasing factory size—largely a result of wartime concentration but helped, no doubt, by the greater efficiency of the larger establishments. Finally, tailoring, jute, lace and footwear all declining industries between, 1935 and 1948, displayed a shift towards smaller scale and net output per employee suggests that there was economic advantage to be gained thereby.

There were consumer goods industries, however, for which the trend in size of establishment, largely generated by the necessities and restraints of the war and post-war periods ran counter to the direction of economic gain. Silk, hosiery, and musical instruments, industries for which the larger plants were the most efficient, declined with falling scale of operations, while the watch, etc., trade, where net output per employee was at a maximum for the very smallest factories, tended towards larger scale of operations in a rather smaller industry.

Net output per head is hardly a sufficiently precise indicator of efficiency to justify any conclusion other than that much of the consistency of behaviour exhibited by the different industries is co-incidental. Indeed, many of the changes that have taken place have been very small and possibly of little significance. Then again the shortcomings of the measure of efficiency used are almost certainly more serious in consumer goods industries than with producer goods ; advertising costs are probably higher and more uneven and the imperfection of the market more pronounced. Clothing is an apt illustration of the inadequacies, the decrease in net output per head as size increases being simply a reflection of the fact that the larger establishments, generally, produce cheaper goods for the masses, while the smaller factories concentrate on the more exclusive models.

In conclusion it is necessary to indicate an important qualification to the usefulness of any investigation of this kind and in doing so to make a plea for the provision in subsequent Censuses of Production of the type of information which would facilitate a more logically satisfactory approach. Professor W. Blair Stewart pointed out in the discussion following Dr. J. M. Blair's interesting paper[1] to the American Economic Association in 1947 that there are serious drawbacks in using either number of employees or the amount of capital as measures of the size of plant. It may be, for example, that the trend in an industry is for more and more capital development leading to increasing size of plant but to a reduction in the number of workers so that on the basis of employees it might appear that the scale of operations was decreasing. The same conditions would mean, moreover, that net output per employee as a measure of efficiency was even less reliable than indicated earlier. Professor Stewart suggests that a much more satisfactory index of size would be the proportion of the market which the plant is designed to supply. There are many problems here, in the devising of such a measure, in the collection of the information and in the presentation of the results. Can they be solved ? It will be a considerable gain

[1] American Economic Review, May, 1948.

when data are published about the amount of capital invested in different industries, firms, and factories. It is rather ominous that in the pilot Census of Production carried out in 1946, although the Board of Trade asked a number of questions on this topic, no information about capital has been included in the reports of the Census so far published in the Board of Trade Journal.

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University of Manchester,
July, 1949

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TABLE I
CIVILIAN POPULATION

	Thousands				
	Total	Total	Aged 18 and over	Aged 5 to 17	Aged under 5
	Towns with over 20,000 inhabitants	All Towns			
	1948 Dec.	1948 July			
Total North West ...	**4,507**	**6,320**	**4,688**	**1,095**	**537**
Manchester Area ...	**1,306**	**1,675**	**1,254**	**279**	**142**
Manchester	697	694	514	119	61
Salford	179	178	130	32	16
Stockport	141	142	107	23	12
Stretford	62	62	47	9	6
Merseyside	**1,298**	**1,501**	**1,061**	**299**	**141**
Liverpool	796	775	536	163	76
Birkenhead	141	139	99	27	13
Wallasey	100	99	73	17	9
Southport	85	85	68	12	5
Bootle	70	148	103	30	15
Spinning District ...	**821**	**1,152**	**873**	**185**	**94**
Bolton	168	179	137	28	14
Oldham...	121	120	91	19	10
Preston	119	122	91	21	10
Rochdale	88	89	69	13	7
Bury	58	64	49	10	5
Weaving District ...	**327**	**495**	**385**	**72**	**38**
Blackburn	112	125	97	19	9
Burnley	85	108	84	16	8
Coal Chemical District	**321**	**698**	**505**	**131**	**62**
St. Helens	110	110	78	22	10
Wigan	85	108	79	20	9
Warrington	78	145	104	28	13
Fylde District	**229**	**353**	**277**	**53**	**23**
Blackpool	149	152	123	20	9
Southern Cheshire ...	**137**	**339**	**254**	**57**	**28**
Chester...	47	66	49	11	6
Furness Area	**68**	**107**	**79**	**19**	**9**
Barrow-in-Furness ...	68	67	49	12	6
South Lancashire Development Area...	**195**	**377**	**273**	**71**	**33**
Merseyside Development Area	**1,213**	**1,206**	**845**	**245**	**116**

Source : Registrar General's Returns and Ministry of Food.

TABLE II

INSURED PERSONS EMPLOYED AND UNEMPLOYED BY TOWNS AND DISTRICTS

	EMPLOYED		UNEMPLOYED					
	1948[1] July	1948[2] July	1948 July	1949 Jan.	1949, April			
	Total	Total	Total	Total	Total	Men	Women	Juveniles
	Thousands		Number					
Total North-West ...	**2,204**	**2,782**	**51,973**	**60,203**	**48,989**	**35,365**	**11,545**	**2,079**
Manchester Area ...	**615**	**803**	**9,838**	**10,229**	**8,044**	**5,734**	**1,623**	**687**
Manchester	318	428	5,251	6,117	4,837	3,380	1,036	421
Salford	62	77	1,283	1,328	1,071	963	86	22
Stockport	43	58	972	943	783	399	214	170
Stretford	58	68	250	220	245	160	68	17
Merseyside	**480**	**613**	**25,848**	**30,765**	**26,022**	**19,810**	**5,368**	**844**
Liverpool	292	367	17,486	20,010	16,988	13,616	2,846	526
Birkenhead	43	56	1,908	2,312	1,861	1,428	410	23
Southport	22	34	753	1,307	1,052	828	208	16
Bootle	38	48	2,357	3,051	2,698	1,907	651	140
Spinning District ...	**445**	**543**	**4,424**	**4,438**	**3,508**	**2,776**	**604**	**128**
Bolton	68	83	898	849	679	535	129	15
Oldham	33	42	583	554	488	429	45	14
Preston	71	94	688	897	707	560	109	38
Rochdale...	45	55	181	200	167	102	41	24
Bury	23	28	160	156	86	75	9	2
Weaving District ...	**189**	**233**	**2,039**	**1,636**	**1,150**	**990**	**141**	**19**
Blackburn	47	56	439	375	252	214	31	7
Burnley	36	46	645	543	403	380	20	3
Coal-Chemical District	**238**	**281**	**5,276**	**5,340**	**4,250**	**2,597**	**1,482**	**171**
St. Helens	42	50	1,300	1,498	1,139	587	539	13
Wigan	36	44	1,321	1,120	878	749	118	11
Warrington	50	61	436	461	441	193	231	17
Fylde District	**96**	**126**	**1,857**	**5,111**	**3,589**	**2,369**	**1,159**	**61**
Blackpool	40	53	1,416	3,947	2,782	1,837	908	37
Southern Cheshire ...	**111**	**146**	**1,473**	**1,394**	**1,085**	**598**	**401**	**86**
Chester	36	51	704	611	457	262	166	29
Furness Area	**30**	**37**	**1,218**	**1,290**	**1,341**	**491**	**767**	**83**
Barrow-in-Furness ...	24	28	950	989	905	296	548	61
Merseyside Development Area	**423**	**538**	**23,997**	**28,406**	**24,113**	**18,573**	**4,763**	**777**
South Lancashire Development Area ...	**113**	**134**	**3,659**	**3,502**	**2,695**	**1,812**	**800**	**83**

[1] Old Basis. [2] New Basis.

Source : Ministry of Labour and National Service.

TABLE III

VACANCIES FILLED AND VACANCIES OUTSTANDING BY TOWNS AND DISTRICTS

	Vacancies filled by Employment Exchanges				Vacancies Outstanding on Registers of Employment Exchanges			
	Weekly Average 36 weeks ended 13th April, 1949				13th April, 1949			
	Total	Men	Women	Juveniles	Total	Men	Women	Juveniles
Total North-West ...	**12,670**	**7,691**	**3,789**	**1,190**	**65,748**	**19,046**	**26,904**	**19,798**
Manchester Area ...	**3,931**	**2,396**	**1,208**	**327**	**21,557**	**5,747**	**9,325**	**6,485**
Manchester	1,872	1,051	652	169	8,799	1,881	4 700	2,218
Salford	369	222	111	36	2,342	564	954	824
Stockport	287	167	87	33	2,026	462	737	827
Stretford	427	320	86	21	1,535	815	381	339
Merseyside	**2,988**	**1,514**	**1,081**	**393**	**6,454**	**1,901**	**2,473**	**2,080**
Liverpool	1,640	739	661	240	3,121	679	1,228	1,214
Birkenhead	365	222	93	50	786	326	166	294
Southport	117	46	57	14	601	94	302	205
Bootle	231	109	80	42	423	164	143	116
Spinning District ...	**2,250**	**1,504**	**614**	**132**	**19,064**	**3,911**	**8,145**	**7,008**
Bolton	359	234	109	16	3,087	592	1,283	1,212
Oldham	210	118	61	31	2,419	103	619	1,697
Preston	393	257	112	24	1,552	525	553	474
Rochdale...	241	180	53	8	2,193	474	915	804
Bury	118	85	28	5	985	293	427	265
Weaving District ...	**927**	**653**	**226**	**48**	**8,013**	**2,203**	**3,954**	**1,856**
Blackburn	270	185	67	18	1,713	461	902	350
Burnley	167	116	44	7	1,727	495	872	360
Coal-Chemical District	**1,305**	**827**	**308**	**170**	**3,696**	**1,610**	**949**	**1,137**
St. Helens	250	137	70	43	489	281	99	109
Wigan	172	91	57	24	600	148	324	128
Warrington	359	241	85	33	1,207	602	179	426
Fylde District	**586**	**356**	**180**	**50**	**2,322**	**841**	**1,059**	**422**
Blackpool	226	121	87	18	1,082	358	542	182
Southern Cheshire ...	**511**	**322**	**138**	**51**	**3,920**	**2,277**	**900**	**743**
Chester	167	91	59	17	697	358	239	100
Furness Area	**172**	**119**	**34**	**19**	**722**	**556**	**99**	**67**
Barrow-in-Furness ...	138	96	25	17	592	489	37	66
South Lancs. Development Area ...	**598**	**334**	**172**	**92**	**1,671**	**642**	**534**	**495**
Merseyside Development Area	**2,715**	**1,451**	**928**	**336**	**5,174**	**1,483**	**1,948**	**1,743**

Source : Ministry of Labour and National Service.

TABLE IV

NUMBER OF INSURED PERSONS EMPLOYED BY INDUSTRIES

	July, 1948	Sept. 1948	Jan. 1949	Thousands April, 1949			
	Old (1) Scheme	New Scheme (2)					
	Total	Total	Total	Total	Total	Males	Females
All Industries	**2,234**	**2,854**	...	...	...	...	...
Agriculture and Fishing ...	32·7	47·8	...	...	...	...	...
Mining	63·1	66·7	...	...	...	...	...
Non-Metalliferous Mining Products	37·4	40·5	40·9	40·0	40·1	32·1	8·0
Chemical and Allied Trades	89·9	103·7	105·2	106·9	107·8	79·7	28·1
Metal Manufacture ...	30·3	33·2	33·5	33·6	33·4	29·1	4·3
Ship Building and Ship Repairing	31·1	34·0	...	...	...	...	...
General Engineering ...	114·3	127·5	128·5	129·4	129·9	109·9	20·0
Textile Engineering ...	36·6	39·9	40·9	42·3	41·5	35·5	6·0
Electrical Engineering ...	33·7	38·4	38·6	37·9	37·2	27·7	9·5
Electrical Apparatus and Cables, etc.	56·7	63·3	62·0	60·5	59·5	35·3	24·2
Construction and Repair of Vehicles and Aircraft ...	95·3	105·8	107·4	108·1	107·9	95·8	12·1
Other Metal Industries ...	49·7	56·0	56·2	57·4	58·1	39·7	18·4
Cotton Spinning	125·9	146·4	148·1	150·6	151·2	54·4	96·8
Cotton Weaving	94·7	109·9	111·9	114·7	115·9	37·7	78·2
Woollen and Worsted ...	9·4	10·4	10·5	10·8	10·9	6·2	4·7
Rayon and Nylon, etc., Manufacture	28·6	31·9	32·4	33·3	34·0	15·6	18·4
Other Textiles	29·4	34·3	34·0	33·9	34·0	12·3	21·7
Textile Bleaching and Dyeing, etc.	35·6	40·3	40·8	42·3	43·0	31·5	11·5
Leather, Leather Goods and Fur	12·7	14·6	14·7	14·5	14·4	9·8	4·6
Tailoring	42·6	49·7	50·2	51·2	51·9	13·0	38·9
Other Clothing	48·8	58·6	58·9	60·0	61·0	16·2	44·8
Food, Drink and Tobacco ...	92·6	107·8	108·1	107·0	107·8	57·2	50·6
Woodworking, etc. ...	29·9	33·6	34·6	34·9	35·4	27·1	8·3
Paper, Printing, etc. ...	54·5	62·8	63·9	64·4	65·5	41·0	24·5
Rubber	26·5	29·5	29·8	29·9	29·0	18·1	10·9
Other Manufacturing Industries	17·5	20·0	20·7	20·8	21·0	11·2	9·8
Building and Contracting ...	137·1	152·1	...	...	...	...	...
Gas, Water and Electricity...	32·6	38·7	35·6	35·9	37·9	35·2	2·7
Transport and Communications	194·2	272·1	...	...	...	...	...
Distributive Trades ...	233·6	287·8	291·9	295·0	297·7	159·4	138·3
Insurance, Banking and Finance	9·0	50·4	52·3	51·4	51·4	32·8	18·6
Public Administration and Defence	110·8	172·6	...	...	...	...	...
Professional Services ...	53·6	137·0	138·0	145·1	145·6	52·6	93·0
Miscellaneous Services ...	130·6	223·8	222·3	215·7	219·5	59·3	160·2
Ex-Service Personnel ...	13·0	13·3	...	...	...	...	...

Source : Ministry of Labour and National Service.

(1) The figures in this column refer to persons insured under the Unemployment Insurance Scheme.

(2) The figures refer to persons insurable under the new National Insurance Acts, and are not comparable with those in the First Column.

TABLE V

NUMBER OF INSURED PERSONS UNEMPLOYED AND VACANCIES OUTSTANDING BY INDUSTRIES

Number

	Unemployed				Vacancies Outstanding on Registers of Employment Exchanges			
	1949 Jan.	1949 April			1949 April			
	Total	Total	Males	Females	Total	Men	Women	Juv'iles
All Industries	**60,203**	**48,988**	**36,798**	**12,190**	**66,557**	**19,046**	**26,895**	**20,616**
Agriculture and Fishing ...	933	691	627	64	235	149	30	56
Mining	669	530	516	14	472	346	12	114
Non-Metalliferous Mining Products	974	770	495	275	764	325	133	306
Chemicals and Allied Trades	1,445	1,333	974	359	1,791	1,180	287	324
Metal Manufacture ...	507	467	384	83	592	385	43	164
Shipbuilding and Ship Repairing	3,050	2,831	2,755	76	885	666	4	215
General Engineering ...	2,235	1,823	1,619	204	2,143	1,112	259	772
Textile Machinery... ...	293	286	273	13	562	254	77	231
Electrical Engineering ...	443	390	283	107	755	372	200	183
Electrical Apparatus and Cables, etc. ...	787	730	470	260	919	132	610	177
Construction and Repair of Vehicles and Aircraft ...	1,612	1,289	1,184	105	1,820	1,243	172	405
Other Metal Industries ...	1,324	1,138	787	351	1,195	321	354	520
Cotton Spinning	739	667	466	201	12,579	1,134	6,201	5,244
Cotton Weaving	321	284	180	104	6,594	939	4,386	1,269
Woollen and Worsted ...	83	70	42	28	315	65	169	81
Rayon and Nylon, etc., Manufacture	168	148	98	50	1,032	208	591	233
Other Textiles	419	336	155	181	1,228	99	702	427
Textile Bleaching and Dyeing, etc.	272	216	185	31	727	190	209	328
Leather, Leather Goods and Fur	198	172	106	66	268	47	93	128
Tailoring	711	377	158	219	3,489	406	2,407	676
Other Clothing	986	621	365	256	3,317	71	2,188	1,058
Food, Drink and Tobacco	2,181	1,963	999	964	1,553	269	582	702
Woodworking, etc. ...	849	619	500	119	776	343	162	271
Paper, Printing, etc. ...	629	511	299	212	1,286	256	351	679
Rubber	645	609	477	132	339	73	145	121
Other Manufacturing Industries	471	566	276	290	405	99	145	161
Building and Contracting	7,446	4,822	4,797	25	4,223	3,714	76	433
Gas, Water and Electricity	425	325	311	14	275	200	38	37
Transport and Communications	7,382	6,078	5,889	189	2,593	1,932	154	507
Distributive Trades ...	5,076	4,061	2,651	1,410	4,519	533	1,383	2,603
Insurance, Banking and Finance	401	336	215	121	379	120	136	123
Public Administration and Defence	4,014	3,032	2,540	492	2,443	1,205	404	834
Professional Services ...	1,091	1,057	400	657	1,357	224	780	353
Misc. Services	8,130	6,730	3,133	3,597	4,727	434	3,412	881
Ex-Service Personnel ...	1,358	1,093	1,057	36	...	...	...	...
No Industry	1,936	2,017	1,132	885	...	...	...	...

Source : Ministry of Labour and National Service.

TABLE VI

PRODUCTION IN CERTAIN INDUSTRIES

	Cotton[1]		Coal	Pig Iron[2]	Steel Ingots and Castings	Ship-building	Building
	Single and Doubled Yarn	Cloth				Vessels under Construction	New Houses Completed
							Permanent
	Million Pounds	Million Linear Yards	Thousand Tons			Th. Gross Tonnage	Number
	Weekly Average					End of Period	Monthly Average or Calendar Month
1938	26·5[3][4]	79·0	275	20·6	21·0	54	...
1946	19·04	38·0	207	20·2	28·0	200	515[5]
1947	13·03	34·08	218	20·2	27·3	234	1,232
1948	...	40·5	233	22·5	31·5	223	1,826
1948 :							
April			224	22·8	34·1		1,789
May	19·80	41·36	237	23·3	31·9	261	1,957
June			248	22·2	33·5		1,933
July			188	20·7	26·8		
August	19·40	38·24	224	21·8	27·6	266	1,889
Sept.			238	22·5	33·3		
October			245	22·3	33·0		
Nov.	20·77	42·93	254	24·5	33·4	223	1,781
Dec.			248	22·4	30·9		
1949 :							
January			228	22·4	33·1		
February	20·80	43·89	252	23·1	35·6	228	1,705
March			253	23·1	34·8		
April ...	...	...	232	22·1	31·9	...	...

Sources : Cotton Board, Ministry of Fuel and Power, Iron and Steel Federation, Lloyd's Register, Ministry of Health.

(1) Includes Rayon and Mixtures : National Figures for 1938 and 1946. Figures 1947 onwards refer to the North-West Region. Those for 1947 refer to single yarn production only, while those for the second quarter of 1948 and subsequently refer to single and doubled yarn.

(2) Includes Flintshire, Denbighshire, Yorkshire (other than North-East Coast).

(3) 1937.

(4) Single yarn only.

(5) From end of war to end of 1946.

TABLE VII

COMPLETED FACTORY BUILDINGS IN THE NORTH-WEST REGION[1]
August, 1945, to February, 1949.

	Thousand Square Feet	
	New	Extension
TOTAL NORTH-WEST	**488**	**2,165**
Manchester Area	**74**	**441**
Chemicals and Chemical Manufactures ...	—	107
General Engineering : Engineers, Iron and Steel Founding	27	81
Merseyside	**148**	**493**
Oils, Glue, Soap, Polishes, Ink and Matches...	—	102
Printing, Publishing, Bookbinding, etc. ...	—	55
General Engineering : Engineers Iron and Steel Founding	—	42
Electrical Apparatus and Cables, etc.	—	40
Spinning District	—	**636**
Electrical Apparatus and Cables, etc.	—	210
Leather and Fur	—	200
Manufacture of Vehicles and Aircraft	—	62
Weaving District	—	**82**
Textile, Bleaching and Dyeing, etc.	—	49
Furniture and Upholstery, Shop and Office Fitting	—	18
Coal Chemical District	**53**	**400**
Chemicals and Chemical Manufacturers ...	—	113
General Engineering : Engineers' Iron and Steel Founding	—	99
Glass	—	77
Cotton Weaving	19	77
Fylde District	**42**	**58**
Manufacture of Vehicles and Aircraft... ...	6	38
Bricks, and Fireclay Goods	30	—
Southern Cheshire	**53**	**35**
General Engineering : Engineers' Iron and Steel Founding	27	—
Paper and Board	26	—
Furness Area	**118**	**20**
Chemicals and Chemical Manufactures ...	88	—
Woollen and Worsted	30	—

Source : Board of Trade.

[1] Over 5,000 square feet.

TABLE VIII

RETAIL TRADE : SALES AND STOCKS

	SALES					STOCKS
	All Departments	Food and Perishables	Non-Food Merchandise			All Departments
			Total	Apparel	Household Goods	
	Weekly Average					
	Year 1946 = 100					Corresponding month in 1946 = 100
1945 year[1]	87	91	81	87	60	...
1946 year [1]	100	100	100	100	100	...
1947 year ...	110	108	114	110	127	...
1948 year ...	125	118	133	133	140	...
1948 :						
April ...	117	113	120	118	152	158
May ...	120	116	125	133	111	165
June ...	127	122	136	144	139	161
July ...	123	120	133	141	137	156
August ...	117	118	117	120	139	147
September	120	117	127	132	145	144
October ...	130	117	144	152	153	139
November	138	117	162	158	160	139
December	159	129	193	176	174	142
1949 :						
January ...	118	115	124	120	128	164
February	120	119	117	120	134	147
March ...	135	137	131	135	130	135
April ...	132	120	144	158	149	147

Source : Board of Trade Journal.
[1] Daily Average.

TABLE IX

SHIPPING MOVEMENTS

	1946	1947	1948	1948	1949
	Quarterly Average			4th Qtr.	1st Qtr.
	Thousand Tons				
FOREIGN TRADE.					
Mersey and North-West Coast					
Total tonnage	5,374	6,152	7,381	7,611	7,347
Arrivals with cargo	2,217	2,675	3,218	3,305	3,055
Departures with cargo	1,328	1,501	1,947	2,085	2,063
Liverpool ...					
Arrivals with cargo	1,652	1,969	2,249	2,308	2,024
Arrivals with cargo and ballast	2,049	2,415	2,822	2,924	2,682
Departures with cargo ...	1,035	1,218	1,617	1,724	1,663
Departures with cargo and ballast	2,043	2,311	2,721	2,779	2,649
Manchester (including Runcorn)					
Arrivals with cargo	423	586	728	694	745
Arrivals with cargo and ballast	476	624	753	721	788
Departures with cargo ...	194	227	288	328	367
Departures with cargo and ballast	435	542	646	640	713
COASTING TRADE.					
Liverpool					
Arrivals with cargo	378	471	510	485	466
Arrivals with cargo and ballast	676	697	844	776	676
Departures with cargo ...	386	450	505	424	439
Departures with cargo and ballast	713	857	993	889	783

Source : Board of Trade Journal.

NOTES AND DEFINITIONS

Geographical Definitions : The NORTH-WEST comprises the counties of Lancaster and Chester. Labour statistics also include the High Peak Parliamentary Division of Derbyshire. The only figures in which this Region cannot be identified are the iron and steel production figures which include Sheffield and other parts of Yorkshire, other than " North-East " Coast, and Flintshire and Denbighshire.

Tables 1, 2, 3 and 7 subdivide the Region into its constituent districts. The subdivisons are those adopted by the Economics Research Section's pre-war publication " Re-adjustment in Lancashire " (1936). Two separate lines are added on Tables 1, 2 and 3 to show the position in the South Lancashire Development Area and in the recently scheduled Merseyside Development Area. The Ministry of Labour Employment Exchanges in these sub-regions are as follows (those in the two Development Areas are in italics) :—

MANCHESTER AREA : Altrincham, Ashton-under-Lyne, Bamford, Bredbury, Buxton, Chapel-en-le-Frith, Denton, Eccles, Glossop, Hyde, Knutsford, Levenshulme, Manchester, Marple, New Mills, Newton Heath, Openshaw, Prestwich, Reddish, Salford, Stalybridge, Stockport (including Poynton), Stretford, Wilmslow, Withington.

MERSEYSIDE : *Birkenhead, Bootle* (including *Litherland* and *Crosby*), Croston, Ellesmere Port, Frodsham, *Garston,* Hoylake, *Liverpool* (*Leece Street, Old Swan, Walton, Regent Road*), Neston, *New Ferry*, Ormskirk, Southport, *Wallasey*. The Merseyside Development Area boundary also includes a small part of the area covered by the Prescot Exchange, but it is not possible to include this in the figures.

SPINNING DISTRICT : Bamber Bridge, Bolton (including Turton), Bury, Chadderton, Chorley, Failsworth, Farnworth, Heywood, Kirkham, Leigh, Leyland, Littleborough, Longridge, Middleton, Mossley, Oldham, Pendlebury, Preston, Radcliffe, Ramsbottom, Rochdale, Royton, Shaw, Walkden, *Westhoughton.*

WEAVING DISTRICT : Accrington, Bacup, Blackburn, Burnley, Clitheroe, Colne, Darwen, Great Harwood (including Clayton-le-Moors), Haslingden, Nelson, Oswaldtwistle, Padiham, Rawtenstall.

COAL-CHEMICAL DISTRICT : *Ashton-in-Makerfield, Aspull,* Atherton and Tyldesley, *Earlestown, Golborne, Hindley* ,(including *Ince Juvenile Employment Bureau*), Horwich, Irlam, Prescot, Runcorn, *St. Helens, Standish, Upholland,* Warrington (including Lymm), Widnes, *Wigan* (including *Pemberton*).

FYLDE DISTRICT : Blackpool, Carnforth, Fleetwood, Galgate, Lancaster, Morecambe, St. Annes-on-Sea (including Lytham).

SOUTHERN CHESHIRE : Chester (including Tarporley), Congleton, Crewe, Macclesfield, Middlewich, Nantwich, Northwich, Sandbach, Winsford.

FURNESS AREA : Barrow-in-Furness, Coniston, Dalton-in-Furness, Grange-over-Sands, Ulverston.

Table I.—The figures for December, 1948 are taken from the Registrar-General's Returns which specify the larger towns only. The figures for the sub-regions on the left-hand half of the Table thus show the population in towns with over 20,000 inhabitants only, distinguishing the County Boroughs. The total population in July, 1948, in each sub-region, including the smaller towns and villages, is shown in the right-hand half of the Table and has been calculated from the Ministry of Food Returns based on the 11th issue of Ration Books.

Note.—In the Ministry of Food figures :—
Preston includes Longridge U.D.
Bury includes Tottington U.D.
Chester, Blackburn, Burnley, Wigan, all include part of the surrounding districts.
Warrington includes Warrington and Whiston R.D.'s.

Table II.—In the issue of May, 1949, only provisional figures of insured persons employed were given. The figures now published are final. The discrepancy between the totals for the North-West in Tables II and IV is due to two factors. Firstly, the figures of the number of insured persons employed *by industries* is a total which is adjusted by the Ministry of Labour Headquarters ; the same adjustments cannot be applied to the figures of insured persons employed by towns and districts, which are obtained from the North-West Regional Office of the Ministry of Labour. Secondly, certain information of some categories (such as established civil servants and members of the mercantile marine) is not available by Local Employment Office Areas, but is contained in the adjusted figures of employment by industries. The employment figures in the first column relate to the estimated numbers of employees who were previously insurable under the Unemployment Insurance Acts, i.e. (with certain exceptions) male manual employees between the ages of 14 and 64, and female manual employees between the ages of 14 and 59, and non-manual workers earning less than £420 per year. The employment figures in the second column are based on the estimated number of employees insured under the new National Insurance Schemes, and are not comparable with those in the first column. The unemployment figures include all the persons on the registers of the Employment Exchanges.

Note.—Manchester includes Employment Exchange Areas of Levenshulme, Manchester, Newton Heath, Openshaw and Withington.
Stockport includes Poynton.
Liverpool includes Employment Exchange Areas of Leece Street Old Swan, Regent Road, Walton.
Bolton includes Turton.
Wigan includes Pemberton.
Warrington includes Lymm.

Table III.—The placing work of the Ministry of Labour Employment Exchanges reflects mobility of labour, since the majority of manual workers and a large proportion of non-manual workers, notify their employment exchange when unemployed in order to qualify for benefit. The reliability of the vacancies figures varies with employer's habits of notifying or not notifying the local Employment Exchanges of any vacancies outstanding. In times of widespread labour shortage it is likely that relatively more vacancies are notified than in times of widespread unemployment. The discrepancy in the totals for the North-West of the Vacancies Outstanding figures in Tables III and V is due to the fact that certain adjustments in the figures *by industries* are carried out by the Ministry of Labour Headquarters. The adjustments are not applied to the figures on a Geographical Basis—Table 3 : c.f. Note to Table II.

Table IV.—The Table subdivides the total numbers of insured employed by industries on the basis of the Standard Industrial Classification. The new series of statistics based on the National Insurance Acts are not comparable with those for earlier years. The figures for September, 1948, January and April, 1949, are calculations made in the Economics Research Section on the basis of the Ministry of Labour " L " Returns, which do not cover all firms

as do the figures based on the Ministry's July count. The figures have been calculated on the basis of indices and on the assumption that the movement in firms not making monthly returns is the same as in those who do. It is believed, however, that the error is not large. See note to Table II.

Table V.—The unemployment and vacancies figures are arranged the same way as the employment figures in Table IV. See note to Table III.

Table VI.—This Table gives production figures for some of the principal industries in the Region. With the cessation of the temporary housing programme, the series of statistics has been discontinued.

Table VII.—This Table relates to completed factory building over 5,000 square feet (new Buildings and Extensions) in the North-West Region from the end of the war up to the end of February, 1949.

Table VIII.—The indices of retail trade show relative, rather than absolute, changes in prosperity. The figures are taken from the Board of Trade Journal, but have been recalculated to give 1946—the first full post-war year—as the base, rather than 1942, which is the Board of Trade's base year. They relate to a sample of departmental, co-operative and wholesale stores.

Table IX.—The figures for arrival and departures with cargo are an index of the volume of trade that passes through the ports. The extent to which the figures for arrivals and departures with cargo and ballast exceed the figures for arrivals and departures with cargo indicates the importance of other port activity, such as berthing and ship repairing.

Books Received

P. SARGANT FLORENCE :
Labour :
Hutchinson & Co. (Publishers) Ltd.

GEORGE J. STIGLER :
Five Lectures on Economic Problems :
Longmans, Green & Co. Ltd.

T. J. B. HOFF :
Economic Calculation in the Socialist Society :
William Hodge & Co. Ltd.